Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N01R-02-BAC** **Little Helton Creek**

Cause Location: A tributary to Helton Creek. The segment extends from the Virginia state line upstream.

City / County: Grayson Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli (E. coli) / 5A Fecal Coliform / 5A

The ambient water quality monitoring station 9-LHC001.92 had a 75% exceedance of the E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N01R_LHC01A02 / Little Helton Creek & tributaries / From Virginia state line upstream to Haw Orchard in Grayson Highlands State Park, a tributary to Helton Creek, WQS Section 2, ii (NE02).	5A	Escherichia coli (E. coli)	2010	M	6.30

Little Helton Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			**6.30**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N01R_LHC01A02 / Little Helton Creek & tributaries / From Virginia state line upstream to Haw Orchard in Grayson Highlands State Park, a tributary to Helton Creek, WQS Section 2, ii (NE02).	5A	Fecal Coliform	2004	M	6.30

Little Helton Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**6.30**

Sources:

Grazing in Riparian or Shoreline Zones	Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N02R-01-TEMP** **Wilson Creek**

Cause Location: Wilson Creek mainstem from the New River confluence at Mouth of Wilson upstream 8.8 miles.

City / County: Grayson Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature / 5A

Station 9-WLS001.78 had 2 of 11 temperature measurements exceed the water quality standard for Class VI waters.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N02R_WLS01A04 / Wilson Creek / Middle segment of Wilson Creek from mile 8.8 near Rugby, upstream to Quebec Branch confluence, WQS Section 2. Most is in National Forest (NE03).	5A	Temperature	2020	L	4.62
VAS-N02R_WLS01A98 / Wilson Creek / Wilson Creek mainstem from New River confluence at Mouth of Wilson upstream 8.8 miles, WQS Section 2. Parallel to Rt. 58, includes Volney (NE03).	5A	Temperature	2020	L	8.90

Wilson Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature - Total Impaired Size by Water Type:			**13.52**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N02R-02-BAC** **New River and Grassy Creek**

Cause Location: This segment begins at the North Carolina state line, includes Fields Dam, and extends downstream to the New River confluence with Saddle Creek at the Route 601 bridge and from where the New River reenters VA from NC to the confluence with Peach Bottom Creek. Grassy Creek from the headwaters downstream to the North Carolina state line and Bridle Creek, a tributary of the New River west of Rt. 601.

City / County: Grayson Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli (E. coli) / 5A Fecal Coliform / 5A

The AWQM station located at 9-NEW187.46 had a 42% exceedance of the E. coli water quality standard and station 9-NEW181.66 had a 18% exceedance. 9-NEW172.45 had 16% that exceeded WQS. Station 9-GRA003.36 had a 92% exceedance. Level III citizen data at station 9-BRL1-NCNR indicate a 46% exceedance rate and station 9-BRL000.04 had a 58% exceedance rate. Station 9-NEW171.94 had a 13% exceedance of the e.coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N02R_BRL01A10 / Bridle Creek / Tributary of New River, west of Rt. 601, south of Rt. 58 (NE07).	5A	Escherichia coli (E. coli)	2014	M	1.13
VAS-N02R_GRA01A10 / Grassy Creek / Headwaters to NC state line east of Quillen Ridge and parallel SR 725, WQS Section 2 (NE04).	5A	Escherichia coli (E. coli)	2010	M	3.64
VAS-N02R_NEW01A98 / New River / Upper mainstem begins at the North Carolina state line at river mile 189.06, and extends downstream to the Wilson Creek confluence at Mouth of Wilson at river mile 188.46. Headwaters are in North Carolina, WQS Section 2 (NE04)	5A	Escherichia coli (E. coli)	2010	M	0.73
VAS-N02R_NEW02A98 / New River / Mainstem from the Wilson Creek confluence downstream to the Fox Creek confluence near Fox, WQS Section 2k (NE04).	5A	Escherichia coli (E. coli)	2010	M	2.50
VAS-N02R_NEW03C04 / New River / Mainstem from Fox Creek confluence downstream to the Bridle Creek confluence at SR 601 bridge north of Big Ridge, WQS Section 2k (NE07).	5A	Escherichia coli (E. coli)	2010	M	4.22
VAS-N04R_NEW01A98 / New River / Mainstem from Brush Creek confluence downstream to Peach Bottom Creek confluence, parallel to North Carolina state line, WQS Section 2 (NE10)	5A	Escherichia coli (E. coli)	2012	M	5.98
VAS-N04R_NEW01B02 / New River / New River mainstem north of Privett Knob, from Bridle Creek confluence downstream to Saddle Creek confluence, WQS Section 2 (NE08).	5A	Escherichia coli (E. coli)	2010	M	1.47
VAS-N04R_NEW02B06 / New River / From NC state line downstream to Brush Creek confluence at Rt. 21/221 bridge, WQS Section 2 (NE10).	5A	Escherichia coli (E. coli)	2020	M	0.42

New River and Grassy Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			**20.09**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N02R_NEW01A98 / New River / Upper mainstem begins at the North Carolina state line at river mile 189.06, and extends	5A	Fecal Coliform	2004	M	0.73

New River Basin

downstream to the Wilson Creek confluence at Mouth of Wilson at river mile 188.46. Headwaters are in North Carolina, WQS Section 2 (NE04)					
VAS-N02R_NEW02A98 / New River / Mainstem from the Wilson Creek confluence downstream to the Fox Creek confluence near Fox, WQS Section 2k (NE04).	5A	Fecal Coliform	2004	M	2.50
VAS-N02R_NEW03C04 / New River / Mainstem from Fox Creek confluence downstream to the Bridle Creek confluence at SR 601 bridge north of Big Ridge, WQS Section 2k (NE07).	5A	Fecal Coliform	2004	M	4.22
VAS-N04R_NEW01B02 / New River / New River mainstem north of Privett Knob, from Bridle Creek confluence downstream to Saddle Creek confluence, WQS Section 2 (NE08).	5A	Fecal Coliform	2004	M	1.47

New River and Grassy Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**8.92**

Sources:

Grazing in Riparian or Shoreline Zones	Rural (Residential Areas)	Source Unknown	Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N02R-02-HG** **New River**

Cause Location: This segment begins at the upper mainstem at the North Carolina state line at river mile 189.06, and extends downstream to the Saddle Creek confluence, it includes the mainstem from the North Carolina line in N04 downstream to the confluence with Rock Creek and the mainstem from Buddle Branch downstream to the confluence with Reed Creek.

City / County: Grayson Co. Wythe Co.

Use(s): Fish Consumption

Cause(s) / VA Category: Mercury in Fish Tissue / 5A

Station 9-NEW171.94 showed smallmouth bass, rock bass and carp exceeded the level of concern for Mercury; a second flathead catfish exceeded the Virginia Department of Health's level of concern. Station 9-NEW158.40 was monitored for sediment and fish tissue. Mercury exceeded the level of concern in several species. 9-NEW117.47 was monitored for sediment and fish tissue in 2004. Mercury was found in the fish tissue.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N02R_NEW01A98 / New River / Upper mainstem begins at the North Carolina state line at river mile 189.06, and extends downstream to the Wilson Creek confluence at Mouth of Wilson at river mile 188.46. Headwaters are in North Carolina, WQS Section 2 (NE04)	5A	Mercury in Fish Tissue	2006	L	0.73
VAS-N02R_NEW02A98 / New River / Mainstem from the Wilson Creek confluence downstream to the Fox Creek confluence near Fox, WQS Section 2k (NE04).	5A	Mercury in Fish Tissue	2006	L	2.50
VAS-N02R_NEW03C04 / New River / Mainstem from Fox Creek confluence downstream to the Bridle Creek confluence at SR 601 bridge north of Big Ridge, WQS Section 2k (NE07).	5A	Mercury in Fish Tissue	2006	L	4.22
VAS-N04R_NEW01A98 / New River / Mainstem from Brush Creek confluence downstream to Peach Bottom Creek confluence, parallel to North Carolina state line, WQS Section 2 (NE10)	5A	Mercury in Fish Tissue	2006	L	5.98
VAS-N04R_NEW01B02 / New River / New River mainstem north of Privett Knob, from Bridle Creek confluence downstream to Saddle Creek confluence, WQS Section 2 (NE08).	5A	Mercury in Fish Tissue	2008	L	1.47
VAS-N04R_NEW01C02 / New River / Mainstem west of Baywood, from Little River confluence downstream to Rock Creek confluence, WQS Section 2 (NE12).	5A	Mercury in Fish Tissue	2006	L	4.68
VAS-N04R_NEW02A06 / New River / From Peach Bottom Creek confluence downstream to Little River confluence, WQS Section 2 (NE10).	5A	Mercury in Fish Tissue	2010	L	3.61
VAS-N04R_NEW02B06 / New River / From NC state line downstream to Brush Creek confluence at Rt. 21/221 bridge, WQS Section 2 (NE10).	5A	Mercury in Fish Tissue	2006	L	0.42
VAS-N08R_NEW03A06 / New River / Mainstem from I-77 bridge downstream to Reed Creek confluence near Lone Ash, WQS Section 2 (NE25).	5A	Mercury in Fish Tissue	2006	L	6.51

New River **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Mercury in Fish Tissue - Total Impaired Size by Water Type:			**30.12**

New River Basin

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N02R-03-BAC** **Wilson Creek**

Cause Location: This segment includes the Wilson Creek mainstem from the New River confluence upstream to the Quebec Branch confluence.

City / County: Grayson Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli (E. coli) / 5A Fecal Coliform / 5A

The AWQM stations 9-WLS001.78 had a 30% and 9-WLS002.57 had a 25% exceedance of the E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N02R_LWL01A20 / Little Wilson Creek / Tributary to Wilson Creek, north of Mink Ridge, Section 2,ii (NE03).	5A	Escherichia coli (E. coli)	2020	M	7.57
VAS-N02R_WLS01A04 / Wilson Creek / Middle segment of Wilson Creek from mile 8.8 near Rugby, upstream to Quebec Branch confluence, WQS Section 2. Most is in National Forest (NE03).	5A	Escherichia coli (E. coli)	2018	M	4.62
VAS-N02R_WLS01A98 / Wilson Creek / Wilson Creek mainstem from New River confluence at Mouth of Wilson upstream 8.8 miles, WQS Section 2. Parallel to Rt. 58, includes Volney (NE03).	5A	Escherichia coli (E. coli)	2010	M	8.90

Wilson Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			**21.09**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N02R_WLS01A98 / Wilson Creek / Wilson Creek mainstem from New River confluence at Mouth of Wilson upstream 8.8 miles, WQS Section 2. Parallel to Rt. 58, includes Volney (NE03).	5A	Fecal Coliform	2004	M	8.90

Wilson Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**8.90**

Sources:

Grazing in Riparian or Shoreline Zones	Livestock (Grazing or Feeding Operations)	Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N03R-01-BAC** **Fox Creek**

Cause Location: This segment includes the mainstem of Fox Creek from the Mill Creek confluence to the New River confluence, Middle Fox Creek from the Fox Creek confluence upstream 4.1 miles and Mill Creek from the confluence with Fox Creek upstream to the headwaters. Little Fox Creek is included in this segment and it extends from the Fox Creek confluence upstream 2.2 miles.

City / County: Grayson Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli (E. coli) / 5A Fecal Coliform / 5A

Designated a natural trout stream. The AWQM station, 9-FXC000.84 had a 33% exceedance of the e.coli water quality standard, 9-FXC003.35 had a 25%, station 9-LFX000.06 had a 45% exceedance of the E.coli standards, stations 9-MFX000.13 had a 50% exceedance and 9-MIR000.28 had a 33% exceedance of the E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N03R_FXC01A98 / Fox Creek / Mainstem of Fox Creek from Mill Creek confluence north of Grant to the New River confluence near Fox, WQS Section 2 (NE05)	5A	Escherichia coli (E. coli)	2010	M	7.65
VAS-N03R_LFX01A10 / Little Fox Creek / A Fox Creek tributary downstream to confluence with Fox Creek, WQS Section 2, South of Grubbs Chapel, parallels Rt. 680 (NE06)	5A	Escherichia coli (E. coli)	2010	M	2.28
VAS-N03R_MFX02A02 / Middle Fox Creek / From Fox Creek confluence upstream 4.4 miles, west of Buck Mountain, WQS Section 2, vi (NE06)	5A	Escherichia coli (E. coli)	2010	M	4.61
VAS-N03R_MIR01A02 / Mill Creek / From Fox Creek confluence north of Grant, upstream to origin on Pine Mountain, WQS Section 2, ii, parallels Rt. 739 (NE05)	5A	Escherichia coli (E. coli)	2010	M	4.57

Fox Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			**19.11**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N03R_FXC01A98 / Fox Creek / Mainstem of Fox Creek from Mill Creek confluence north of Grant to the New River confluence near Fox, WQS Section 2 (NE05)	5A	Fecal Coliform	2004	M	7.65

Fox Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**7.65**

Sources:

- Grazing in Riparian or Shoreline Zones
- Livestock (Grazing or Feeding Operations)
- Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N04R-02-BAC** **Little River**

Cause Location: This segment includes the Little River mainstem from NC state line, river mile 5.20, to the confluence at New River.

City / County: Grayson Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli (E. coli) / 5A

The AWQM station, 9-LVR001.34, had a 25% exceedance of the fecal coliform water quality standard in the 2004 WQA. The station was moved to 9-NEW002.65 in 2003 and had a 16% exceedance of the E. coli water quality standard. Stations 9-LVR002.65 had a 25% exceedance and 9-LVR007.16 had a 28% exceedance of the E.coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N04R_LVR01A98 / Little River / Little River mainstem east of Peach Bottom, from NC state line, river mile 5.20, to the confluence of New River, WQS Section 2 (NE11)	5A	Escherichia coli (E. coli)	2012	M	6.55

Little River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			**6.55**

Sources:

Rural (Residential Areas)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N04R-03-BAC** **Peach Bottom Creek and Rock Creek**

Cause Location: This segment includes the mainstem from the headwaters downstream to the confluence with the New River. This also includes Rock Creek from the U.S. 21 crossing to the confluence with the New River.

City / County: Grayson Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli (E. coli) / 5A Fecal Coliform / 5A

The AWQM station, 9-PBC001.12, had a 83% exceedance of the E.coli water quality standard, at 9-PBC008.61, 58% exceed and at 9-RCK000.50, 100% exceed.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N04R_PBC01A98 / Peach Bottom Creek / Mainstem from Beaverdam Creek confluence downstream to New River confluence parallel to SR 697, WQS Section 2 (NE09).	5A	Escherichia coli (E. coli)	2006	M	2.81
VAS-N04R_PBC01B02 / Peach Bottom Creek / Peach Bottom Creek headwaters north of Buck Mountain, downstream to confluence of Little Peach Bottom Creek north of Independence, WQS Section 2, vi (NE09).	5A	Escherichia coli (E. coli)	2012	M	8.86
VAS-N04R_PBC01C04 / Peach Bottom Creek / East of Independence from Beaverdam Creek confluence, upstream to Little Peach Bottom Creek confluence, WQS Section 2 (NE09).	5A	Escherichia coli (E. coli)	2016	M	5.34
VAS-N04R_RCK01A12 / Rock Creek / New River tributary from SR 654 near Chestnut Hill School downstream, northeast of Independence (NE12).	5A	Escherichia coli (E. coli)	2012	M	5.00

Peach Bottom Creek and Rock Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			**22.01**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N04R_PBC01A98 / Peach Bottom Creek / Mainstem from Beaverdam Creek confluence downstream to New River confluence parallel to SR 697, WQS Section 2 (NE09).	5A	Fecal Coliform	2004	M	2.81

Peach Bottom Creek and Rock Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			**2.81**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N04R-07-BAC** **Saddle Creek**

Cause Location: This segment includes the mainstem from the New River confluence upstream 3.09 miles, west of Independence.

City / County: Grayson Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli (E. coli) / 5A

The AWQM station, 9-SDL000.05, had a 42% exceedance of the E.coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N04R_SDL01A06 / Saddle Creek / A New River tributary west of Independence, WQS Section 2 (NE08)	5A	Escherichia coli (E. coli)	2006	M	3.17

Saddle Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			**3.17**

Sources:

Animal Feeding Operations (NPS)	Livestock (Grazing or Feeding Operations)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N04R-08-PH** **New River**

Cause Location: The New River from the NC state line downstream to the Brush Creek confluence at the Rt. 21/221 bridge.

City / County: Grayson Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

AWQM station 9-NEW171.94 had 2 of 18 pH measurements exceed the water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N04R_NEW02B06 / New River / From NC state line downstream to Brush Creek confluence at Rt. 21/221 bridge, WQS Section 2 (NE10).	5A	pH	2020	L	0.42

New River **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
pH - Total Impaired Size by Water Type:			**0.42**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N05R-01-BAC** **Elk Creek & Tributaries**

Cause Location: This segment includes Elk Creek from the Comers Rock Branch confluence downstream to the New River confluence, including 4.31 miles of Knob Fork and Middle Branch Elk Creek, west of Bennington Mill. It also includes the headwaters of Turkey Fork near Dry Run Gap on Iron Mountain.

City / County: Grayson Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli (E. coli) / 4A Fecal Coliform / 4A

The AWQM stations, 9-EKC000.11, 9-EKC003.78, 9-EKC010.47, 9-EKC012.13, 9-EKC017.51 and 9-KNB000.03 had exceedances of the E. coli water quality standard that ranged from 26-66%. Stations 9-ECM001.01 had a 75% exceedance and 9-TKY001.55 had a 100% exceedance of the E.coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N05R_ECM01A14 / Middle Branch Elk Creek / Elk Creek tributary west of Bennington Mill, Section 2 (NE13).	4A	Escherichia coli (E. coli)	2016	L	3.06
VAS-N05R_EKC01A00 / Elk Creek / Lower Elk Creek from the Knob Fork confluence, north of Lundy Knob, downstream to the New River confluence, WQS Section 2,*** (NE14).	4A	Escherichia coli (E. coli)	2006	L	3.32
VAS-N05R_EKC02A00 / Elk Creek / Upper Elk Creek from the Turkey Fork confluence, north of Poor Knob, downstream to Knob Fork confluence, WQS Section 2, *** (NE14).	4A	Escherichia coli (E. coli)	2006	L	7.59
VAS-N05R_EKC03A02 / Elk Creek / Mainstem from confluence of Comers Rock Branch near Bennington Mill, downstream to Turkey Fork confluence, WQS Section 2 (NE13).	4A	Escherichia coli (E. coli)	2006	L	9.38
VAS-N05R_KNB01A06 / Knob Fork / Elk Creek tributary upstream to Farmers Branch, at The Pilot, NE of Brierpatch Mountain, WQS Section 2 (NE14).	4A	Escherichia coli (E. coli)	2006	L	4.60
VAS-N05R_TKY01A02 / Turkey Fork / Headwaters near Dry Run Gap on Iron Mountain in Jefferson National Forest, WQS Section 2 iii (NE14).	4A	Escherichia coli (E. coli)	2018	L	6.00

Elk Creek & Tributaries **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			**33.95**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N05R_EKC01A00 / Elk Creek / Lower Elk Creek from the Knob Fork confluence, north of Lundy Knob, downstream to the New River confluence, WQS Section 2,*** (NE14).	4A	Fecal Coliform	2002	L	3.32
VAS-N05R_EKC02A00 / Elk Creek / Upper Elk Creek from the Turkey Fork confluence, north of Poor Knob, downstream to Knob Fork confluence, WQS Section 2, *** (NE14).	4A	Fecal Coliform	2002	L	7.59

Elk Creek & Tributaries **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**10.91**

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

Sources:

- Animal Feeding Operations (NPS)
- Grazing in Riparian or Shoreline Zones
- Livestock (Grazing or Feeding Operations)
- Rural (Residential Areas)
- Septage Disposal
- Sewage Discharges in Unsewered Areas
- Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N05R-01-BEN** **Elk Creek and Turkey Fork**

Cause Location: This segment includes the mainstem from the confluence of Comers Rock Branch downstream to Turkey Fork. It also includes the headwaters of Turkey Fork near Dry Run Gap on Iron Mountain.

City / County: Grayson Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic Macroinvertebrates Bioassessments / 5A

The Probabilistic Monitoring station located at 9-EKC013.81 was impaired based on VSCI scores of 47 and 45. Probabilistic Monitoring station 9-TKY001.55 was impaired based on VSCI scores of 40 and 39.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N05R_EKC03A02 / Elk Creek / Mainstem from confluence of Comers Rock Branch near Bennington Mill, downstream to Turkey Fork confluence, WQS Section 2 (NE13).	5A	Benthic Macroinvertebrates Bioassessments	2008	L	9.38
VAS-N05R_TKY01A02 / Turkey Fork / Headwaters near Dry Run Gap on Iron Mountain in Jefferson National Forest, WQS Section 2 iii (NE14).	5A	Benthic Macroinvertebrates Bioassessments	2018	L	6.00

Elk Creek and Turkey Fork	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			**15.38**

Sources:

- Animal Feeding Operations (NPS)
- Grazing in Riparian or Shoreline Zones
- Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N06R-01-BAC** **Chestnut Creek**

Cause Location: This segment extends from the confluence with Coal Creek downstream to river mile 14.27 at the Galax raw water intake and from river mile 14.27 downstream to the Allied-Signal Gossan mine discharge at river mile 8.06. It also includes Lower Chestnut Creek from the Skunk Branch confluence at the Allied Gossan mine, river mile 8.06, downstream to the confluence with New River.

City / County: Carroll Co. Galax City Grayson Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli (E. coli) / 4A

The AWQM station, 9-CST0016.82, had a 20% exceedance of the E.coli water quality standard, station 9-CST002.64 25% exceeded WQS. Station 9-CST012.75 had a 50% exceedance of the E.coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N06R_CST01A94 / Chestnut Creek / Lower Chestnut Creek from Skunk Branch confluence at Allied Gossan mine, river mile 8.06, downstream to the confluence with New River, WQS Section 2 (NE17).	4A	Escherichia coli (E. coli)	2014	L	8.68
VAS-N06R_CST02A94 / Chestnut Creek / Segment extends from the City of Galax Water Treatment Plant intake, river mile 14.27, downstream to the Allied-Signal Gossan mine discharge, river mile 8.06, Section 2 (NE17).	4A	Escherichia coli (E. coli)	2016	L	5.68
VAS-N06R_CST03A94 / Chestnut Creek / Segment extends from the southern Route 89 bridge, river mile 15.00, near the upstream Galax City limit, downstream to river mile 14.27, the Galax raw water intake, WQS Section 2h (NE17)	4A	Escherichia coli (E. coli)	2004	L	1.09
VAS-N06R_CST04A98 / Chestnut Creek / This is an upstream continuation of the public water supply segment for the City of Galax raw water intake extending upstream to Cox Mill, WQS Section 2h (NE17)	4A	Escherichia coli (E. coli)	2004	L	2.10

Chestnut Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			**17.55**

Sources:

- Animal Feeding Operations (NPS)
- Crop Production (Crop Land or Dry Land)
- Livestock (Grazing or Feeding Operations)
- Rural (Residential Areas)
- Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N06R-01-BEN** **Chestnut Creek**

Cause Location: This segment includes the mainstem of Chestnut Creek from the Skunk Branch confluence downstream to the confluence with New River.

City / County: Carroll Co. Galax City Grayson Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic Macroinvertebrates Bioassessments / 4A Sedimentation/Siltation /

The AWQM station, 9-CST002.64, historically indicated an impairment of the aquatic life use. Station 9-CST005.73 has VSCI scores of 49.6 and 65.9 in 2014 and station 9-CST012.63 had VSCI scores of 56.9 and 50.8 in 2013.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N06R_CST01A94 / Chestnut Creek / Lower Chestnut Creek from Skunk Branch confluence at Allied Gossan mine, river mile 8.06, downstream to the confluence with New River, WQS Section 2 (NE17).	4A	Benthic Macroinvertebrates Bioassessments	2002	L	8.68
VAS-N06R_CST02A94 / Chestnut Creek / Segment extends from the City of Galax Water Treatment Plant intake, river mile 14.27, downstream to the Allied-Signal Gossan mine discharge, river mile 8.06, Section 2 (NE17).	4A	Benthic Macroinvertebrates Bioassessments	2004	L	5.68

Chestnut Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			**14.36**

Sources:

Acid Mine Drainage	Crop Production (Crop Land or Dry Land)	Grazing in Riparian or Shoreline Zones	Mine Tailings
Silviculture Activities	Unrestricted Cattle Access	Urban Runoff/Storm Sewers	

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N06R-03-BAC** **Meadow Creek & New River**

Cause Location: This segment includes Meadow Creek and its tributaries and New River from Elk Creek confluence downstream to Eagle Bottom Creek confluence.

City / County: Grayson Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli (E. coli) / 5A

AWQM station located at 9-MCR000.20 had a 75% exceedance of the E. coli water quality standard. 9-NEW148.23 has E.coli exceedance rate of 23%.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N06R_MCR01A02 / Meadow Creek & tributaries / Meadow Creek from confluence with New River upstream to headwaters and tributaries, south west of Galax WQS Section 2, v, NEW-5 (NE15).	5A	Escherichia coli (E. coli)	2010	M	10.53
VAS-N06R_NEW01A00 / New River / Mainstem from the Elk Creek confluence near Riverside to five miles above Fries Dam, WQS Section 2 (NE15/16).	5A	Escherichia coli (E. coli)	2004	M	5.38
VAS-N06R_NEW02A02 / New River / New River mainstem from Fries Dam, five miles upstream, Section 2i (NE16).	5A	Escherichia coli (E. coli)	2014	M	5.03

Meadow Creek & New River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			**20.94**

Sources:

Livestock (Grazing or Feeding Operations)	Rural (Residential Areas)	Source Unknown	Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N06R-03-PH** **New River**

Cause Location: Mainstem from the Elk Creek confluence near Riverside to five miles above the Fries Dam and from the Fries Dame, five miles upstream.

City / County: Grayson Co.

Use(s): Aquatic Life

Cause(s) / VA Category: pH / 5A

18% pf the pH measurements at station 9-NEW148.23 exceed the maximum water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N06R_NEW01A00 / New River / Mainstem from the Elk Creek confluence near Riverside to five miles above Fries Dam, WQS Section 2 (NE15/16).	5A	pH	2018	L	5.38
VAS-N06R_NEW02A02 / New River / New River mainstem from Fries Dam, five miles upstream, Section 2i (NE16).	5A	pH	2018	L	5.03

New River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			**10.41**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N07R-01-BAC** **Crooked Creek**

Cause Location: This segment extends from the headwaters of Crooked Creek downstream to the confluence with New River at Byllesby.

City / County: Carroll Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli (E. coli) / 5A Fecal Coliform / 5A

The AWQM station, 9-CRK020.79, had a 25% exceedance of the E. coli water quality standard. This segment is designated natural trout waters. Station 9-CRK015.69 had a 50% exceedance of the E.coli water quality standard. 9-CRK003.00 has 33% exceedance.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N07R_CRK01A04 / Crooked Creek / From headwaters near Pipers Gap to Beaverdam Creek confluence south of Woodlawn, WQS Section 2, ii (NE19).	5A	Escherichia coli (E. coli)	2010	M	11.45
VAS-N07R_CRK01A98 / Crooked Creek / From confluence of Cranberry Creek east of SR 635, downstream to New River at Byllesby, WQS Section 2, iii (NE20).	5A	Escherichia coli (E. coli)	2010	M	12.09
VAS-N07R_CRK02A04 / Crooked Creek / From Beaverdam Creek confluence, south of Woodlawn, to Cranberry Creek confluence, WQS Section 2 (NE20).	5A	Escherichia coli (E. coli)	2010	M	4.36

Crooked Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			**27.90**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N07R_CRK01A04 / Crooked Creek / From headwaters near Pipers Gap to Beaverdam Creek confluence south of Woodlawn, WQS Section 2, ii (NE19).	5A	Fecal Coliform	2004	M	11.45
VAS-N07R_CRK01A98 / Crooked Creek / From confluence of Cranberry Creek east of SR 635, downstream to New River at Byllesby, WQS Section 2, iii (NE20).	5A	Fecal Coliform	2004	M	12.09

Crooked Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**23.54**

Sources:

Grazing in Riparian or Shoreline Zones	Source Unknown	Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N07R-01-TEMP** **Crooked Creek**

Cause Location: This segment of Crooked Creek begins at Route 707 and continues to Route 620.

City / County: Carroll Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature / 5A

The AWQM station located at 9-CRK015.69 had a 25% exceedance of the temperature standard for natural trout streams.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N07R_CRK02A04 / Crooked Creek / From Beaverdam Creek confluence, south of Woodlawn, to Cranberry Creek confluence, WQS Section 2 (NE20).	5A	Temperature	2010	M	4.36

Crooked Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature - Total Impaired Size by Water Type:			**4.36**

Sources:

Grazing in Riparian or Shoreline Zones	Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N08R-01-BAC** **New River**

Cause Location: This segment includes the tributaries of the New River from the Reed Creek confluence downstream to the Big Reed Island Creek confluence including Pine Run. This bacteria impaired section of the New River mainstem is between the Big Reed Island Creek confluence, near Route 100, and the backwaters of Claytor Lake near the Wythe/Pulaski county line.

City / County: Carroll Co. Pulaski Co. Wythe Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli (E. coli) / 5A Fecal Coliform / 5A

Station 9-NEW107.51 was formally contained in the 1999 Federal Consent Decree Attachment B List for fecal coliform bacteria. The 2002 Assessment found the recreational use fully supported. Station 107.51 found only three of 52 samples in excess of the former WQS fecal coliform 1000 n/100 ml instantaneous criterion. The waters were therefore not 303(d) listed in 2002. The initial 303(d) Listing for fecal coliform bacteria occurs with the 2004 IR. The 2006 Assessment and 303(d) Listings replace fecal coliform bacteria with escherichia coli (E.coli) bacteria as the indicator with sufficient E.coli data as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. The waters were delisted with the 2014 assessment as E.coli excursions of the 235 cfu/100 ml instantaneous criterion are three of 35 observations. An 8.5% exceedance rate at station 9-NEW107.51 (Allisonia USGS Gage) results in the delisting of these 1999 Consent Decree waters. These waters are listed in the 2016 data window based on the information detailed below.

9-NEW107.51 (Allisonia USGS Gage) The 2016 and 2018 Integrated Reports find five of 39 E.coli samples in excess of the WQS instantaneous criterion of 235 cfu/100 ml. Excessive values range from 280 cfu/100 ml to greater than 2000.

9-PRN000.84 had a 41% (5/12) exceedance of the E. coli water quality standard.

9-MRN000.31 - E.Coli bacteria WQS exceedance rate was 58%.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N08R_MRN01A04 / Mill Creek / Enters New River from north, upper end is near SR 606 near New Jersey Zinc, WQS Section 2 (NE25).	5A	Escherichia coli (E. coli)	2010	M	4.37
VAS-N08R_NEW01A02 / New River / Mainstem, north of Barren Springs, from Reed Creek confluence downstream to Big Reed Island Creek confluence, WQS Section 2 (NE43).	5A	Escherichia coli (E. coli)	2016	M	5.71
VAS-N08R_NEW01B98 / New River / From Mill Creek confluence near Austinville, downstream to the confluence of unnamed tributary west of Flatwood, WQS Section 2 (NE21).	5A	Escherichia coli (E. coli)	2016	M	1.44
VAS-N08R_NEW01L98 / New River at Byllesby / New River mainstem in Carroll County. This is a run-of-River power generating facility with limited public access that extends from Buck Dam upstream to Byllesby Dam (NE21).	5A	Escherichia coli (E. coli)	2008	M	3.06
VAS-N08R_NEW02B00 / New River / Mainstem public water supply segment for Austinville from Buck Dam tailwaters downstream to the Mill Creek confluence, WQS Section 2l (NE21).	5A	Escherichia coli (E. coli)	2016	M	5.01
VAS-N08R_NEW03B98 / New River / From Buck Dam, to tailwaters, five miles upstream of Austinville raw water intake, section 2 (NE21).	5A	Escherichia coli (E. coli)	2016	M	0.92
VAS-N08R_PNR01A10 / Pine Run / At the Wythe/Pulaski County line, New River tributary from Pine Run Church downstream, WQS Section 2 (NE32).	5A	Escherichia coli (E. coli)	2010	M	1.43
VAW-N16R_NEW01A00 / New River / This section of the New River extends from the mouth of Big Reed Island Creek downstream	5A	Escherichia coli (E. coli)	2006	M	0.61

New River Basin

to the backwaters of Claytor Lake Class IV sec. 2c (NE43).

New River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			**22.55**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N08R_MRN01A04 / Mill Creek / Enters New River from north, upper end is near SR 606 near New Jersey Zinc, WQS Section 2 (NE25).	5A	Fecal Coliform	2004	M	4.37

New River **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**4.37**

Sources:

Grazing in Riparian or Shoreline Zones	Livestock (Grazing or Feeding Operations)	Municipal (Urbanized High Density Area)	Source Unknown
Wastes from Pets	Wet Weather Discharges (Non-Point Source)	Wildlife Other than Waterfowl	

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N08R-03-BAC** **Shorts Creek and Unnamed Tributary**

Cause Location: This segment includes Shorts Creek and continues until it enters New River at Jackson Ferry. This segment also includes an unnamed tributary to Shorts Creek that enters at Jackson Ferry and flows west from Rackettown.

City / County: Carroll Co. Wythe Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli (E. coli) / 5A Fecal Coliform / 5A

The AWQM station, 9-SRT000.12, had a 62% exceedance of the E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N08R_SRT01A04 / Shorts Creek / Headwaters, south of Poplar Camp Mountain, WQS Section 2 (NE 25).	5A	Escherichia coli (E. coli)	2012	M	3.31
VAS-N08R_SRT01B04 / Shorts Creek / The lower reach of Shorts Creek, enters New River at Jackson Ferry, WQS Section 2, vi (NE25).	5A	Escherichia coli (E. coli)	2010	M	7.07
VAS-N08R_XEE01A06 / Shorts Creek unnamed tributary / Flows west from Rackettown and enters Shorts Creek above Jackson Ferry, WQS Section 2 (NE25).	5A	Escherichia coli (E. coli)	2010	M	3.88

Shorts Creek and Unnamed Tributary	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			**14.26**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N08R_SRT01B04 / Shorts Creek / The lower reach of Shorts Creek, enters New River at Jackson Ferry, WQS Section 2, vi (NE25).	5A	Fecal Coliform	2004	M	7.07
VAS-N08R_XEE01A06 / Shorts Creek unnamed tributary / Flows west from Rackettown and enters Shorts Creek above Jackson Ferry, WQS Section 2 (NE25).	5A	Fecal Coliform	2006	M	3.88

Shorts Creek and Unnamed Tributary	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			**10.95**

Sources:

Animal Feeding Operations (NPS)	Grazing in Riparian or Shoreline Zones	Livestock (Grazing or Feeding Operations)	Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N09R-01-BAC** **Cripple Creek and Crigger Creek**

Cause Location: This segment includes the mainstem from the confluence with Dry Run, downstream to the Francis Mill Creek confluence as well as the lower segment of the mainstem from the New River confluence upstream to the Dean Branch confluence. It also includes Crigger Creek from the confluence with Cripple Creek upstream to the confluence with Middle Creek.

City / County: Smyth Co. Wythe Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli (E. coli) / 4A Fecal Coliform / 4A

The AWQM stations, 9-CPL018.47 and 9-CPL022.99, both had a 45% exceedance of the E. coli water quality standard. AWQM stations 9-CPL0001.03 had a 25% exceedance, 9-CPL003.10 had a 17% exceedance and 9-CGG000.35 had a 36% exceedance of the E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N09R_CGG01B04 / Crigger Creek / From confluence with Cripple Creek upstream to Middle Creek confluence, WQS Section 2, iv (NE22).	4A	Escherichia coli (E. coli)	2018	L	4.20
VAS-N09R_CPL01A98 / Cripple Creek / Extends from Dean Branch confluence upstream to Francis Mill Creek confluence, WQS Section 2 (NE24).	4A	Escherichia coli (E. coli)	2018	L	11.68
VAS-N09R_CPL01B04 / Cripple Creek / Lower segment of mainstem from the New River confluence upstream to the Dean Branch confluence at Porter Crossroads, WQS Section 2l (NE24).	4A	Escherichia coli (E. coli)	2010	L	3.17
VAS-N09R_CPL02A98 / Cripple Creek / From the Dry Run confluence near Speedwell downstream to the Francis Mill Creek confluence, WQS Section 2 (NE23).	4A	Escherichia coli (E. coli)	2010	L	6.49
VAS-N09R_CPL02B04 / Cripple Creek / Mainstem from Blue Spring Creek confluence downstream to the Dry Run confluence near Speedwell, WQS Section 2, *** (NE23).	4A	Escherichia coli (E. coli)	2010	L	6.43

Cripple Creek and Crigger Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			**31.97**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N09R_CPL01B04 / Cripple Creek / Lower segment of mainstem from the New River confluence upstream to the Dean Branch confluence at Porter Crossroads, WQS Section 2l (NE24).	4A	Fecal Coliform	2004	L	3.17
VAS-N09R_CPL02A98 / Cripple Creek / From the Dry Run confluence near Speedwell downstream to the Francis Mill Creek confluence, WQS Section 2 (NE23).	4A	Fecal Coliform	2004	L	6.49

Cripple Creek and Crigger Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**9.66**

New River Basin

Sources:

Livestock (Grazing or Feeding Operations)	Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N09R-03-BAC** **Slate Spring Branch and Dean Branch**

Cause Location: This segment includes Slate Spring Branch from the Cripple Creek confluence up stream to the headwaters and Dean Branch from the confluence with Cripple Creek upstream 1.7 miles.

City / County: Smyth Co. Wythe Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli (E. coli) / 4A Fecal Coliform / 4A

The AWQM station, 9-SPB000.10, had a 100% exceedance of the E.coli water quality standard. Station 9-DEN000.03 had a 25% exceedance of the E.coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N09R_DEN01A10 / Dean Branch / Cripple Creek tributary at Porters Crossroads, WQS Section 2 (NE24).	4A	Escherichia coli (E. coli)	2010	M	1.92
VAS-N09R_SPB01A04 / Slate Spring Branch / From Cripple Creek confluence at Eagle Cliff upstream to headwaters at Matney Flat, WQS Section 2.	4A	Escherichia coli (E. coli)	2010	M	6.14

Slate Spring Branch and Dean Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			**8.06**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N09R_SPB01A04 / Slate Spring Branch / From Cripple Creek confluence at Eagle Cliff upstream to headwaters at Matney Flat, WQS Section 2.	4A	Fecal Coliform	2004	M	6.14

Slate Spring Branch and Dean Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			**6.14**

Sources:

Animal Feeding Operations (NPS)	Non-Point Source	Source Unknown	Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N09R-03-BEN** **Dean Branch**

Cause Location: A Cripple Creek tributary at Porters Crossroads.

City / County: Smyth Co. Wythe Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic Macroinvertebrates Bioassessments / 5A

The freshwater probabilistic monitoring station at 9-DEN000.39 was impaired based on VSCI scores of 54.70 and 57.54.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N09R_DEN01A10 / Dean Branch / Cripple Creek tributary at Porters Crossroads, WQS Section 2 (NE24).	5A	Benthic Macroinvertebrates Bioassessments	2016	L	1.92

Dean Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			**1.92**

Sources:

Animal Feeding Operations (NPS)	Livestock (Grazing or Feeding Operations)	Non-Point Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N09R-04-TEMP** **Crigger Creek**

Cause Location: From the confluence with Cripple Creek upstream to the Middle Creek confluence.

City / County: Smyth Co. Wythe Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature / 5A

Station 9-CGG000.35 had 2 of 12 (17%) temperature measurements exceed the WQS for Class VI waters.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N09R_CGG01B04 / Crigger Creek / From confluence with Cripple Creek upstream to Middle Creek confluence, WQS Section 2, iv (NE22).	5A	Temperature	2020	L	4.20

Crigger Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature - Total Impaired Size by Water Type:			**4.20**

Sources:

Grazing in Riparian or Shoreline Zones	Source Unknown	Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N10R-01-TEMP** **Reed Creek and Mill Creek**

Cause Location: Reed Creek mainstem from Venrick Run upstream to South Fork and Mill Creek from its headwaters west of Rural Retreat to the Reed Creek confluence east of Blacklick.

City / County: Wythe Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature / 5A

Water temperature was exceeded for Class VI WQS at 9-RDC033.94 in 2 of 9 measurements. Station 9-MCE000.37 had 2 of 12 temperature measurements exceed the WQS for Class VI waters.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N10R_MCE01A02 / Mill Creek / From headwaters west of Rural Retreat to Reed Creek confluence east of Blacklick, WQS Section 2.	5A	Temperature	2020	L	6.39
VAS-N10R_RDC01A00 / Reed Creek / Reed Creek mainstem parallel to SR 659 from Venrick Run upstream to South Fork confluence south of Petunia in Section 2g (NE28).	5A	Temperature	2012	L	1.43

Reed Creek and Mill Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature - Total Impaired Size by Water Type:			**7.82**

Sources:

Grazing in Riparian or Shoreline Zones	Loss of Riparian Habitat

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N10R-02-BAC** **South Fork Reed Creek and Mill Creek**

Cause Location: This segment includes the mainstem of South Fork Reed Creek downstream to the Reed Creek confluence as well as the mainstem of Mill Creek to the confluence with Reed Creek. It also includes Hubble Branch, north of I81 near Rural Retreat.

City / County: Smyth Co. Wythe Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli (E. coli) / 4A

The AWQM station, 9-MCE000.37, had a 66% exceedance of the E.coli water quality standard. Station 9- RSF000.08 & 9-RSF006.78 had a 67% exceedance of the E.coli water quality standard. 9-HOL000.74 had 66% E.coli exceedance rate.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N10R_HOL01A12 / Huddle Branch / A Mill Creek tributary from the Monkey Run confluence parallel SR 617 North of I81 at Staley Crossroads (NE26).	4A	Escherichia coli (E. coli)	2012	L	1.48
VAS-N10R_MCE01A02 / Mill Creek / From headwaters west of Rural Retreat to Reed Creek confluence east of Blacklick, WQS Section 2.	4A	Escherichia coli (E. coli)	2006	L	6.39
VAS-N10R_RSF01A00 / South Fork Reed Creek / Mainstem from river mile 6.8 near Groseclose, downstream to the Reed Creek confluence parallel and south of I81, WQS Section 2; Wytheville National Fish Hatchery is on this reach (NE28).	4A	Escherichia coli (E. coli)	2006	L	6.77
VAS-N10R_RSF01A02 / South Fork Reed Creek / Mainstem in headwaters near Fairview and through Groseclose, WQS Section 2, vi (NE28).	4A	Escherichia coli (E. coli)	2012	L	13.35

South Fork Reed Creek and Mill Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			**27.99**

Sources:

- Animal Feeding Operations (NPS)
- Grazing in Riparian or Shoreline Zones
- Livestock (Grazing or Feeding Operations)
- Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N10R-02-BEN** **Mill Creek**

Cause Location: From the headwaters, west of Rural Retreat, to the confluence with Reed Creek, east of Blacklick.

City / County: Wythe Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic Macroinvertebrates Bioassessments / 5A

The probabilistic monitoring station at 9-MCE000.27 was impaired based on VSCI scores of 58 and 51.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N10R_MCE01A02 / Mill Creek / From headwaters west of Rural Retreat to Reed Creek confluence east of Blacklick, WQS Section 2.	5A	Benthic Macroinvertebrates Bioassessments	2018	L	6.39

Mill Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			**6.39**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N10R-03-BAC** **Stony Fork**

Cause Location: This segment includes the headwaters downstream to the Reed Creek confluence.

City / County: Wythe Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli (E. coli) / 4A

The AWQM station, 9-SFK000.28, had a 67% exceedance of the E. coli water quality standard and station 9-SFK001.51 had a 50% exceedance of the E.coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N10R_SFK01A02 / Stony Fork / Class V waters @ Favonia downstream to Reed Creek confluence, WQS Section 2, vi (NE27).	4A	Escherichia coli (E. coli)	2006	L	1.90
VAS-N10R_SFK01A12 / Stony Fork / Headwaters in Jefferson National Forest south of Walker Mountain downstream to Class VI waters @ Favonia, WQS Section 2, vi (NE27).	4A	Escherichia coli (E. coli)	2012	L	4.73

Stony Fork **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			**6.63**

Sources:

Livestock (Grazing or Feeding Operations)	Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N10R-04-BAC** **Tate Run**

Cause Location: This segment begins at the Stuffle Run confluence and extends downstream to Reed Creek.

City / County: Wythe Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli (E. coli) / 4A

The AWQM station, 9-TAT000.46, had a 58% exceedance of the E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N10R_TAT01A06 / Tate Run / From Stuffle Run confluence downstream to Reed Creek, Section 2g (NE28).	4A	Escherichia coli (E. coli)	2006	L	0.56

Tate Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			**0.56**

Sources:

Livestock (Grazing or Feeding Operations)	Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N11R-01-BAC** **Reed Creek and Pine Run**

Cause Location: This segment begins at the Gullion Fork confluence and extends downstream to the Venrick Run confluence. It also includes the lower mainstem of Reed Creek from its confluence with an unnamed tributary East of Route 21 to the confluence with Miller Creek and from the New River confluence near Lone Ash, upstream to the Glade Creek confluence. Pine Run, a Reed Creek tributary north of I-81 and south of Pine Ridge.

City / County: Smyth Co. Wythe Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli (E. coli) / 4A Fecal Coliform / 4A

The AWQM station, 9-RDC046.65, had a 33% exceedance of the E.coli water quality standard. Station 9-RDC038.01 had a 25% exceedance of the E. coli standard and station 9-RDC033.78 had a 50% exceedance and station 9-RDC023.24 had a 27% exceedance of the E.coli water quality standard. Station 9-RDC009.00 had a 14% exceedance of the e.coli WQS and station 9-PRN000.04 had a 67% exceedance.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N10R_PRN01A12 / Pine Run / Reed Creek tributary north of I81 and south of Pine Ridge (NE28).	4A	Escherichia coli (E. coli)	2012	L	4.13
VAS-N10R_RDC01A00 / Reed Creek / Reed Creek mainstem parallel to SR 659 from Venrick Run upstream to South Fork confluence south of Petunia in Section 2g (NE28).	4A	Escherichia coli (E. coli)	2008	L	1.43
VAS-N10R_RDC01A02 / Reed Creek / From South Fork Reed Creek confluence upstream to Stony Fork confluence west of Petunia, WQS Section 2, *** (NE28).	4A	Escherichia coli (E. coli)	2006	L	5.23
VAS-N10R_RDC01B00 / Reed Creek / Mainstem from the Stony Fork confluence south of Favonia, upstream to the Gullion Fork confluence, WQS Section 2, *** (NE26).	4A	Escherichia coli (E. coli)	2006	L	9.85
VAS-N10R_RDC01C02 / Reed Creek / Headwaters of Reed Creek from Redding Gap in Jefferson National Forest downstream to Gullion Fork confluence, WQS Section 2, *** (NE26).	4A	Escherichia coli (E. coli)	2012	L	6.83
VAS-N11R_RDC01B00 / Reed Creek / Lower mainstem from Muskrat Branch confluence downstream to Rt. 52 bridge south of Max Meadows, WQS Section 2 (NE29).	4A	Escherichia coli (E. coli)	2006	L	5.85
VAS-N11R_RDC01C02 / Reed Creek / Segment begins at confluence of unnamed tributary east of Rt. 21 bridge and extends downstream to the Muskrat Branch confluence, north of Rt. 11, WQS Section 2 (NE29).	4A	Escherichia coli (E. coli)	2010	L	6.21
VAS-N11R_RDC03B04 / Reed Creek / From New River confluence near Lone Ash, upstream to the Glade Creek confluence near Boiling Spring, WQS Section 2 (NE31).	4A	Escherichia coli (E. coli)	2004	L	9.87

Reed Creek and Pine Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			**49.40**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N10R_RDC01A00 / Reed Creek / Reed Creek mainstem parallel to SR 659 from Venrick Run upstream to South Fork confluence south of Petunia in Section 2g (NE28).	4A	Fecal Coliform	2002	L	1.43

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

Reed Creek and Pine Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**1.43**

Sources:

- Animal Feeding Operations (NPS)
- Grazing in Riparian or Shoreline Zones
- Livestock (Grazing or Feeding Operations)
- Source Unknown
- Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N11R-02-BAC** **Miller Creek**

Cause Location: This segment includes the mainstem from the Beaverdam confluence at Max Meadows downstream to Reed Creek and from the West Fork confluence downstream to Max Meadows.

City / County: Wythe Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli (E. coli) / 4A

The AWQM station, 9-MER000.09, had a 45% exceedance and station 9-MER000.85 had a 20% of the E.coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N11R_MER01A06 / Miller Creek / From Beaverdam confluence in the community of Max Meadows downstream to Reed Creek, WQS Section 2 (NE31).	4A	Escherichia coli (E. coli)	2006	L	0.42
VAS-N11R_MER02A10 / Miller Creek / A Reed Creek tributary From West Fork confluence on Brushy Ridge downstream to Max Meadows, WQS Section 2 (NE31).	4A	Escherichia coli (E. coli)	2012	L	3.64

Miller Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			**4.06**

Sources:

Rural (Residential Areas) Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N11R-02-BEN** **Reed Creek tributary**

Cause Location: This segment includes an unnamed tributary of Reed Creek that drains the Wytheville Community College at the east end of the town of Wytheville.

City / County: Wythe Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic Macroinvertebrates Bioassessments / 5A

Station 9-XES000.94 was impaired based on VASCI scores of 41 and 51 in 2008.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N11R_XES01A10 / Reed Creek tributaries / Tributary that drains location of Wytheville Community College at east end of Wytheville, WQS Section 2 (NE29).	5A	Benthic Macroinvertebrates Bioassessments	2010	M	2.67

Reed Creek tributary	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			**2.67**

Sources:

Grazing in Riparian or Shoreline Zones	Rural (Residential Areas)	Streambank Modifications/Destabilization	Urban Runoff/Storm Sewers

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N11R-03-BAC** **McGavock Creek**

Cause Location: A Reed Creek tributary east of Grahams Forge, parallel to Route 618.

City / County: Wythe Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli (E. coli) / 4A

The AWQM Station located at 9-MGV000.37 has a 18% exceedance of the E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N11R_MGV01A12 / McGavock Creek / Reed Creek tributary west of Grahams Forge and parallel, to SR 618 (NE31).	4A	Escherichia coli (E. coli)	2012	M	2.58

McGavock Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			**2.58**

Sources:

- Grazing in Riparian or Shoreline Zones
- Livestock (Grazing or Feeding Operations)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N12R-01-BAC** **Cove Creek and St. Lukes Fork**

Cause Location: This segment includes the lower Cove Creek mainstem from St. Lukes Fork downstream to the confluence with Reed Creek. This segment also includes St. Lukes Fork from the Cove Creek confluence upstream 1.4 miles, north of Queens Knob.

City / County: Wythe Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli (E. coli) / 4A

The AWQM station, 9-CVR003.88, had a 45% exceedance of the E.coli water quality standard. Station 9-SLK001.24 had a 82% exceedance of the E.coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N12R_CVR01A00 / Cove Creek / Lower Cove Creek from St. Lukes Fork confluence, near Queens Knob, downstream to the confluence with Reed Creek, east of Wytheville, WQS Section 2 (NE30).	4A	Escherichia coli (E. coli)	2006	L	9.92
VAS-N12R_SLK01A04 / St. Lukes Fork / From Cove Creek confluence upstream 1.4 miles, north of Queens Knob, in Section 2 (NE30).	4A	Escherichia coli (E. coli)	2016	L	1.77

Cove Creek and St. Lukes Fork **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			**11.69**

Sources:

Livestock (Grazing or Feeding Operations)	Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N13R-01-BAC** **Big Reed Island Creek**

Cause Location: This segment begins at the headwaters of Big Reed Island Creek and continues downstream to the confluence with Pine Creek.

City / County: Carroll Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli (E. coli) / 5A

The AWQM station located at 9-RIC039.71 had a 33% exceedance and station 9-RIC049.29 had a 50% exceedance of the E.coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N13R_RIC01A00 / Big Reed Island Creek / North of Crooked Oak from Pine Creek confluence to Snake Creek confluence, WQS Section 2, iii (NE36).	5A	Escherichia coli (E. coli)	2018	M	6.64
VAS-N13R_RIC01B04 / Big Reed Island Creek / From headwaters on Hurricane Knob downstream to Pine Creek confluence near Crooked Oak, WQS Section 2, iii (NE36).	5A	Escherichia coli (E. coli)	2008	M	19.85

Big Reed Island Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			**26.49**

Sources:

- Animal Feeding Operations (NPS)
- Grazing in Riparian or Shoreline Zones

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N13R-01-BEN** **Big Reed Island Creek**

Cause Location: This segment begins at the headwaters of Big Reed Island Creek and continues downstream to the confluence with Pine Creek.

City / County: Carroll Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic Macroinvertebrates Bioassessments / 5A

The Probabilistic Monitoring station located at 9-RIC051.80 was impaired based on the VSCI scores of 70 and 46.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N13R_RIC01B04 / Big Reed Island Creek / From headwaters on Hurricane Knob downstream to Pine Creek confluence near Crooked Oak, WQS Section 2, iii (NE36).	5A	Benthic Macroinvertebrates Bioassessments	2008	H	19.85

Big Reed Island Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			**19.85**

Sources:

Animal Feeding Operations (NPS)	Grazing in Riparian or Shoreline Zones	Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N13R-01-TEMP** **Big Reed Island Creek**

Cause Location: From the headwaters on Hurricane Knob downstream to the Pine Creek confluence near Crooked Oak and from North of Crooked Oak from the Pine Creek confluence to the Snake Creek confluence.

City / County: Carroll Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature / 5A

AWQM station located 9-RIC039.71 had a 25% exceedance and station 9-RIC049.29 had a 25% exceedance of the WQS for Class IV waters.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N13R_RIC01A00 / Big Reed Island Creek / North of Crooked Oak from Pine Creek confluence to Snake Creek confluence, WQS Section 2, iii (NE36).	5A	Temperature	2018	L	6.64
VAS-N13R_RIC01B04 / Big Reed Island Creek / From headwaters on Hurricane Knob downstream to Pine Creek confluence near Crooked Oak, WQS Section 2, iii (NE36).	5A	Temperature	2020	L	19.85

Big Reed Island Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Temperature - Total Impaired Size by Water Type:			**26.49**

Sources:

Grazing in Riparian or Shoreline Zones

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N13R-02-BAC** **Snake Creek**

Cause Location: From the Big Reed Island confluence upstream 3.5 miles to near the Macey Branch confluence, WQS Section 2, iii.

City / County: Carroll Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli (E. coli) / 5A

The AWQM station located at 9-SKE000.98 had a 73% exceedance of the E.coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N13R_SKE01A04 / Snake Creek / From Big Reed Island Creek confluence upstream 3.5 miles to near Macey Branch confluence, WQS Section 2, iii (NE37).	5A	Escherichia coli (E. coli)	2014	M	3.54

Snake Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			**3.54**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N14R-01-BAC** **Big Reed Island Creek**

Cause Location: This segment includes the mainstem of Big Reed Island Creek from the confluence of Snake Creek downstream to the confluence with Bobbitt Creek, from Bobbitt Creek to the Greasy Creek confluence, and from the Island Creek confluence downstream to the Big Branch confluence.

City / County: Carroll Co. Pulaski Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli (E. coli) / 5A Fecal Coliform / 5A

The AWQM station, 9-RIC029.23, had a 25% exceedance of the fecal coliform water quality standard and station 9-RIC018.90 had a 17% exceedance of the E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N14R_RIC01A00 / Big Reed Island Creek / Big Reed Island Creek east of Red Hill, from Bobbitt Creek confluence upstream to Snake Creek confluence, WQS Section 2, iii (NE39).	5A	Escherichia coli (E. coli)	2018	H	7.55
VAS-N14R_RIC01B04 / Big Reed Island Creek / Big Reed Island Creek from Bobbitt Creek confluence south of Witcher Knob to Greasy Creek confluence, WQS Section 2 (NE39).	5A	Escherichia coli (E. coli)	2010	H	13.81

Big Reed Island Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			**21.36**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N14R_RIC01A00 / Big Reed Island Creek / Big Reed Island Creek east of Red Hill, from Bobbitt Creek confluence upstream to Snake Creek confluence, WQS Section 2, iii (NE39).	5A	Fecal Coliform	2004	H	7.55
VAS-N14R_RIC01B04 / Big Reed Island Creek / Big Reed Island Creek from Bobbitt Creek confluence south of Witcher Knob to Greasy Creek confluence, WQS Section 2 (NE39).	5A	Fecal Coliform	2014	H	13.81

Big Reed Island Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**21.36**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N14R-01-TEMP** **Big Reed Island Creek**

Cause Location: Big Reed Island Creek east of Red Hill, from the Bobbitt Creek confluence upstream to the Snake Creek confluence.

City / County: Carroll Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature / 5A

AWQM station located 9-RIC029.23 had a 25% exceedance of the WQS for Class IV waters.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N14R_RIC01A00 / Big Reed Island Creek / Big Reed Island Creek east of Red Hill, from Bobbitt Creek confluence upstream to Snake Creek confluence, WQS Section 2, iii (NE39).	5A	Temperature	2018	L	7.55

Big Reed Island Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature - Total Impaired Size by Water Type:			**7.55**

Sources:

Loss of Riparian Habitat

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N14R-02-BAC** **Greasy Creek**

Cause Location: This segment begins at the Carroll county line and continues downstream to the confluence with Big Reed Island Creek.

City / County: Floyd Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli (E. coli) / 5A

The AWQM station located at 9-GSC000.03 had a 17% exceedance of the E.coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N14R_GSC01A08 / Greasy Creek / From Carroll/Floyd County line downstream to Big Reed Island Creek confluence south of Macks Mountain, WQS Section 2 (NE40).	5A	Escherichia coli (E. coli)	2008	H	13.63

Greasy Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			**13.63**

Sources:

Grazing in Riparian or Shoreline Zones

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N14R-03-BAC** **Island Creek**

Cause Location: A Big Reed Island Creek tributary northeast of Hillsville from its headwaters near Huffman Knob.

City / County: Carroll Co. Floyd Co. Pulaski Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli (E. coli) / 5A

The AWQM station located at 9-ISL003.05 had a 58% exceedance of the E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N14R_ISL01A12 / Island Creek & tributaries / Big Reed Island Creek tributary northeast of Hillsville from headwaters near Huffman Knob (NE39).	5A	Escherichia coli (E. coli)	2018	L	13.35

Island Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			**13.35**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N15R-01-BAC** **Little Reed Island Creek**

Cause Location: This segment begins 5 miles above the Hillsville public water intake and extends downstream to the confluence with Big Reed Island Creek.

City / County: Carroll Co. Pulaski Co. Wythe Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli (E. coli) / 5A

AWQM station 9-LRI001.62 had a 33% exceedance of the E.coli water quality standard, station 9-LRI009.11 had a 25% exceedance, station 9-LRI017.64 had a 25% exceedance, station 9-LRI023.48 had a 50% exceedance, and station 9-LRI031.58 had a 33% exceedance of the E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N15R_LRI01A98 / Little Reed Island Creek / Little Reed Island Creek mainstem from confluence with Big Reed Island Creek upstream to Rock C confluence in Carroll County, WQS Section 2 (NE34).	5A	Escherichia coli (E. coli)	2008	H	11.00
VAS-N15R_LRI01B98 / East Fork Little Reed Island Creek / From Hillsville PWS intake south of Rt. 58, upstream five miles, WQS Section 2f (NE33).	5A	Escherichia coli (E. coli)	2008	H	5.28
VAS-N15R_LRI02A08 / Little Reed Island Creek / Segment extends from Rock Creek confluence upstream to Hillsville PWS intake west of Rt. 100, WQS Section 2 (NE33/34).	5A	Escherichia coli (E. coli)	2008	H	19.70

Little Reed Island Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			**35.98**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N15R-01-TEMP** **Little Reed Island Creek**

Cause Location: This segment begins approximately 1 mile below the Hillsville water intake and continues downstream to the Big Reed Island Creek confluence and from the Hillsville PWS intake south of Rt. 58, upstream 5 miles.

City / County: Carroll Co. Pulaski Co. Wythe Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature / 5A

AWQM station 9-LRI017.64 had a 33% exceedance of the temperature standard. Stations 9-LRI020.76 and 9-LRI023.48 had a 25% and 15% exceedance of the temperature standard. Station 9-LRI031.58 had a 25% exceedance of the WQS for Class VI waters.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N15R_LRI01B98 / East Fork Little Reed Island Creek / From Hillsville PWS intake south of Rt. 58, upstream five miles, WQS Section 2f (NE33).	5A	Temperature	2020	H	5.28
VAS-N15R_LRI02A08 / Little Reed Island Creek / Segment extends from Rock Creek confluence upstream to Hillsville PWS intake west of Rt. 100, WQS Section 2 (NE33/34).	5A	Temperature	2008	H	19.70

Little Reed Island Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Temperature - Total Impaired Size by Water Type:			**24.98**

Sources:

Loss of Riparian Habitat

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N16L-01-DO** **Claytor Lake - New River**

Cause Location: Claytor Lake - New River mainstem from the mouth of Peak Creek downstream to Claytor Dam (Dublin and Radford South Quads).

City / County: Pulaski Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Dissolved Oxygen / 4C

A portion of Claytor Lake, 1,799.25 acres, is originally 2002 303(d) Listed for excursions of the Class IV Water Quality Standard (WQS) dissolved oxygen minimum criterion of 4.0 mg/l. The impairment is categorized as natural (4C) in past assessment cycles where no excursions of the Claytor Lake criterion for chlorophyll a (25 µg/L) or total phosphorus (20 µg/L algaecides applied) occur from stations 9-NEW089.34 or 9-NEW087.14 (Lacustrine zone). Virginia's Lake Nutrient Criteria (9 VAC 25-260-187) states the nutrient criteria apply only in the epilimnion for lacustrine waters during thermal stratification for control of nutrient enrichment. Guidance Memo No. 09-2005 "Monitoring and Assessment of Lakes and Reservoirs" outlines criteria for evaluating dissolved oxygen during periods of thermal stratification. Data from the following stations find the waters not supporting the Aquatic Life Use in the epilimnion from dissolved oxygen exceedances of the minimum 4.0 mg/l criterion.

9-NEW092.66- (Dublin Water Works) 2020 epilimnion dissolved oxygen (DO) measurements are 117 exceeding values from a total of 710 measurements. 2018 epilimnion dissolved oxygen (DO) measurements are 113 exceeding values from a total of 635 measurements. 2016 epilimnion dissolved oxygen (DO) measurements are 68 exceeding values from a total of 851 measurements. However these data are not deemed sufficient for delisting these waters. The 2014 data window reports 88 of 787 DO total measurements exceed the minimum 4.0 mg/l criterion. 2012 data reveal 118 of 807 DO measurements exceeding the 4.0 mg/l minimum criterion. The 2010 assessment reports 101 epilimnion dissolved oxygen (DO) measurements exceeding the 4.0 mg/l minimum from 806 measurements. 2008 results find 154 exceed from 656 total observations.

9-NEW089.34- (Line Between Beach and Inlet) 2020 epilimnion DO measurements are160 of 676 measurements. 2018 epilimnion DO measurements are161 of 624 measurements. 2016 epilimnion DO measurements are 58 of 806 indicating support of the minimum DO criterion. However these data alone are not sufficient to delist this section of the Lake. Epilimnion DO measurements within the 2014 data window record 59 of 747 total measurements exceed the minimum of 4.0 mg/l. 2012 data exceed in 82 of 798 total measurements. The 2010 assessment finds 99 of 857 epilimnion DO measurements in excess of the minimum criterion. 2008 results find 121 exceed from 637 total observations.

9-NEW087.14- (Under Power Lines above Dam) 2020 epilimnion DO measurements are 155 exceeding of 632 measurements. 2018 epilimnion DO measurements are 164 exceeding of 664 measurements. 2016 epilimnion DO measurements are 58 of 806 indicating support of the minimum DO criterion. However these data alone are not sufficient to delist this section of the Lake. 2012 measurements of DO in the epilimnion are 93 of 804 exceeding the 4.0 minimum criterion. DO exceeds the minimum criterion in 99 of 830 epilimnion measurements within the 2010 data window. 2008 results find 115 exceed from 695 total observations.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N16L_NEW01A02 / Claytor Lake (New River) / Claytor Lake from its impounding structure upstream to the Claytor State Park Cabins.	4C	Dissolved Oxygen			######
VAW-N16L_NEW01B14 / Claytor Lake (New River) / Claytor Lake from the Claytor State Park Cabins upstream to the former Burlington Industries water intake.	4C	Dissolved Oxygen			602.03
VAW-N16L_NEW02A02 / Claytor Lake (New River) / Claytor Lake from the Claytor State Park Cabins upstream to the confluence of Peak Creek	4C	Dissolved Oxygen			278.51

Claytor Lake - New River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Dissolved Oxygen - Total Impaired Size by Water Type:		**2,077.45**	

New River Basin

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N16L-02-DO** **Claytor Lake - Peak Creek**

Cause Location: Peak Creek from its confluence with the New River upstream to the end of the WQS public water supply (PWS) designation (Dublin Quad).

City / County: Pulaski Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Dissolved Oxygen / 4C

A portion of Claytor Lake in the Peak Creek (Lower) (216.86 acres) arm is originally 2002 303(d) Listed for excursions of the Class IV Water Quality Standard (WQS) dissolved oxygen minimum criterion of 4.0 mg/l. The impairment is categorized as natural (4C) as there are no excursions of the Claytor Lake criterion for chlorophyll a (25 µg/L) or total phosphorus (20 µg/L algaecides applied) from stations 9-NEW089.34 or 9-NEW087.14 (Lacustrine zone). Virginia's Lake Nutrient Criteria (9 VAC 25-260-187) states the nutrient criteria apply only in the epilimnion for lacustrine waters during thermal stratification for control of nutrient enrichment. Guidance Memo No. 09-2005 "Monitoring and Assessment of Lakes and Reservoirs" outlines criteria for evaluating dissolved oxygen during periods of thermal stratification. Data from station 9-PKC000.00 finds the waters not supporting the Aquatic Life Use in the epilimnion from dissolved oxygen exceedances of the minimum 4.0 mg/l criterion.

9-PKC000.00 (Mouth of Peak Cr.)- The 2020 integrated Report (IR) finds 157 of 687 dissolved oxygen (DO) measurements exceed the 4.0 mg/l minimum criterion in the epilimnion. The 2018 integrated Report (IR) finds 212 of 723 dissolved oxygen (DO) measurements exceed the 4.0 mg/l minimum criterion in the epilimnion. The 2016 integrated Report (IR) finds 116 of 791 dissolved oxygen (DO) measurements exceed the 4.0 mg/l minimum criterion in the epilimnion. 2014 data report 123 of 725 DO measurements exceed the 4.0 mg/l minimum criterion in the epilimnion. 2012 DO measurements find 93 of 673 measurements in excess of the 4.0 mg/l minimum criterion. The 2010 assessment reports 69 epilimnion DO measurements exceeding the 4.0 mg/l minimum from 633 measurements. 2008 results find 131 exceed from 618 total observations.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N17L_PKC01A10 / Claytor Lake (Peak Creek) / Peak Creek from its confluence with the New River upstream to the end of the WQS public water supply (PWS) designation.	4C	Dissolved Oxygen			216.86

Claytor Lake - Peak Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Dissolved Oxygen - Total Impaired Size by Water Type:		**216.86**	

Sources:

Natural Conditions - Water Quality Standards Use Attainability Analyses Needed

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N17R-01-BAC** **Peak Creek and Tract Fork**

Cause Location: The bacteria impairment extends from the mouth of Hogan Creek downstream to the backwaters of Claytor Lake. And Tract Fork mainstem from its confluence with Peak Creek upstream to the mouth of Pondlick Branch.

City / County: Pulaski Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli (E. coli) / 4A

The Peak Creek Bacteria Total Maximum Daily Load (TMDL) received U.S. EPA approval on 8/30/2004 [Fed. ID 7824] and SWCB approval on 12/02/2004. These waters are 1996 303(d) Listed originally for fecal coliform bacteria for 3.49 miles (4.65 mi. pre-NHD) and extended upstream in subsequent assessment cycles for a total 6.49 miles. The Recreational Use remains impaired. Tract Fork is a 2012 nested impairment within the overall Bacteria TMDL watershed. The TMDL Study can be viewed at http://www.deq.virginia.gov. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

9-PKC011.11 (Commerce St. Bridge) Two of 11 escherichia coli (E.coli) observations exceed the WQS instantaneous criterion of 235 cfu/100 ml within the 2016 data window. Excessive values range are 325 and 350 cfu/100 ml. There are no additional E.coli data within the 2014 data window or beyond the 2008 IR. None of the three remaining samples within the 2012 data window exceed the instantaneous criterion. Data within the 2008 and 2010 data windows find two of 10 E.coli samples exceeding the 235 cfu/100 ml instantaneous criterion with exceeding values the same as in 2008. Both exceedances are 500 and 640 cfu/100 ml. E.coli results in 2006 find two of seven samples in excess of the 235 cfu/100 ml criterion; exceedances are the same as in 2008.

9-PKC009.29 (Near Radio Tower) There are no additional data beyond the 2008 IR. One exceeding value occurs within the 2012 data window at 500 cfu/100 ml of the reaming three observations. E.coli data within the 2010 data window reveal 12 exceeding values from 21 samples. The 2008 IR finds E.coli exceeds the instantaneous criterion in 12 of 23 samples. Exceeding values for both 2010 and 2008 data windows range from 240 cfu/100 ml. to 10,000. E.coli exceeds the instantaneous criterion in 11 of 18 samples in 2006 with the same range of exceedance.

9-PKC007.80 (Rt. 99 bridge) Eleven of 25 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion within the 2018 data window. Excursions range from 275 to greater than 2,000 cfu/100 ml.

9-TCK000.50 (Rt. 674 Bridge)- Escherichia coli (E.coli) data within the 2012 and 2014 data windows reveal seven of 12 samples in excess of the 235 cfu/100 ml instantaneous criterion. Values in excess of the criterion range from 250 to 880 cfu/100 ml. There are no additional bacteria data within the 2016 data window.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N17R_PKC01A00 / Peak Creek / This portion of Peak Creek begins just downstream of the Rt. 99/Norfolk Southern crossing extending downstream to the inundation of Peak Creek in Claytor Lake (NE46).	4A	Escherichia coli (E. coli)	2006	L	1.83
VAW-N17R_PKC02A00 / Peak Creek / The segment begins downstream of the Washington Ave. Bridge (~0.20 miles) and extends on downstream to just below the Rt. 99 Bridge/Norfolk Southern Railway crossing of Peak Creek (NE46).	4A	Escherichia coli (E. coli)	2006	L	1.66
VAW-N17R_PKC03A00 / Peak Creek / This portion of Peak Creek extends from the mouth of Tract Fork to downstream of the Washington Ave. Bridge (~0.20 miles) (NE46).	4A	Escherichia coli (E. coli)	2006	L	0.51
VAW-N17R_PKC03A06 / Peak Creek / This portion of Peak Creek extends from the Magnox, Inc. outfall on downstream to the mouth of Tract Fork (NE44).	4A	Escherichia coli (E. coli)	2006	L	0.39
VAW-N17R_PKC04A00 / Peak Creek / The segment extends from the mouth of Hogan Creek downstream to just above the Magnox.	4A	Escherichia coli (E. coli)	2006	L	2.10

New River Basin

Inc. outfall on Peak Creek (NE44).

VAW-N17R_TCK01A00 / Tract Fork / Tract Fork mainstem from its confluence with Peak Creek upstream to the mouth of Pondlick Branch (NE45).	4A	Escherichia coli (E. coli)	2012	L	1.24

Peak Creek and Tract Fork **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			**7.73**

Sources:

- Livestock (Grazing or Feeding Operations)
- Municipal (Urbanized High Density Area)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Sanitary Sewer Overflows (Collection System Failures)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N17R-01-BEN** **Peak Creek**

Cause Location: Benthic impaired waters begin downstream of the Washington Ave. Bridge (~0.20 miles) on downstream to the inundation of Peak Creek in Claytor Lake.

City / County: Pulaski Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic Macroinvertebrates Bioassessments / 4A

The Peak Creek General Standard - Benthic (Metals) Total Maximum Daily Load (TMDL) is U.S. EPA approved 8/30/2004 [Fed ID 7823/7822] and SWCB approval on 12/02/2004. The TMDL finds cooper (Cu) and zinc (Zn) as stressors for 3.49 miles to this 1996 (4.65 mi. pre-NHD) Listed benthic impairment. The TMDL allocations require reductions in zinc and copper from non-point sources.

9-PKC009.29 (Near Radio Tower) Bio 'IM' There are no additional data beyond the 2014 data window. Two 2011 Virginia Stream Condition Index (VSCI) surveys within the 2014 and 2016 data windows produce spring and fall scores of 31.6 and 37.4. 2011 samples show low diversity of taxa and several pollution tolerant taxa dominating the samples. Filter, collector and scraper feeding type taxa were the dominant functional feeding groups. There are no additional data within the 2010 or 2012 data windows. The 2008 IR reports four Virginia Stream Condition Index (VSCI) surveys (2002, 2003 & 2006) have an average score of 47.9. The spring 2003 sample had high diversity and numbers of mayflies compared to other samples collected in this assessment period. High flows in 2003 potentially contributed to these higher numbers. The samples with low scores show low diversity of taxa and several pollution tolerant taxa dominating the samples. Filter, collector and scraper feeding taxa were the dominant functional feeding groups. Habitat in this reach has been impacted by loss of riparian vegetation and in stream cover, and increased sedimentation.

9-PKC007.80 (Rt. 99 Bridge) Bio 'IM' Four Virginia Stream Condition Index (VSCI) surveys (2011 & 2014) within the 2016 and 2018 data windows produce an average score of 48.4. 2014 data window report impairment from two 2011 surveys. The VSCI scores are spring 33.8 and fall 58.3. Benthic community data show several pollution tolerant taxa were dominant. Mayflies typically had low abundance and other sensitive taxa such as stoneflies and caddisflies were very rare in samples. Habitat in this reach has been impacted by the loss of riparian vegetation. There are no additional data within either the 2010 or 2012 data windows. The 2008 data window reports four VSCI surveys (2002, 2003 & 2006) with an average score of 47.6. These collections reveal several pollution tolerant taxa are dominant. Habitat in this reach has been impacted by the loss of riparian vegetation.

9-PKC005.95 (Upstream of I-81 crossing)- A 2004 Probabilistic site. Two VSCI surveys, spring (62.5) and fall (58.4) result in an average score of 60.5. near the lower limit for reference conditions. Impacts from sediment deposition were noted during the spring survey. Other habitat parameters scored in the optimal to sub-optimal range. Approximately 5% of the land cover upstream of this station is urban. The TMDL study found the impairment cause to be heavy metals in sediments and storm runoff. Both samples at this station were dominated by organisms tolerant of nutrient enrichment. Since this station is within a known impaired segment and VSCI scores are near the Impaired/Non-impaired cutoff, best professional judgment designates the station as impaired.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N17R_PKC01A00 / Peak Creek / This portion of Peak Creek begins just downstream of the Rt. 99/Norfolk Southern crossing extending downstream to the inundation of Peak Creek in Claytor Lake (NE46).	4A	Benthic Macroinvertebrates Bioassessments	1996	L	1.83
VAW-N17R_PKC02A00 / Peak Creek / The segment begins downstream of the Washington Ave. Bridge (~0.20 miles) and extends on downstream to just below the Rt. 99 Bridge/Norfolk Southern Railway crossing of Peak Creek (NE46).	4A	Benthic Macroinvertebrates Bioassessments	1996	L	1.66

Peak Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			**3.49**

New River Basin

Sources:

Contaminated Sediments	Industrial/Commercial Site Stormwater Discharge (Permitted)	Sediment Resuspension (Contaminated Sediment)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N17R-01-CU** **Peak Creek**

Cause Location: Impairment begins downstream of the Washington Ave. Bridge (~0.20 miles) on downstream to the inundation of Peak Creek in Claytor Lake.

City / County: Pulaski Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Copper / 4A

The Peak Creek General Standard - Benthic (Metals) Total Maximum Daily Load (TMDL) received U.S. EPA approval on 8/30/2004 [Fed ID 7823/7822] and SWCB approval on 12/02/2004.

The TMDL finds copper (Cu) and zinc (Zn) as stressors for 3.49 miles to this 1996 (4.65 mi. pre-NHD) Listed benthic impairment. The likelihood of dissolved metals reaching acute levels of toxicity in the water column during low-flow and storm events was assessed. The impact of point source discharges of Cu and Zn during low flow was analyzed and determined that the concentrations of Cu and Zn would not likely approach the acute criteria for aquatic life (i.e., 13 ug/l and 120 ug/l for Cu and Zn, respectively). It was anticipated that acidic runoff from historic industrial sites may leach significant levels of dissolved Cu and Zn to the stream during storm events. The weight of evidence at this time, including site observations and collected data, points to soils at or from the Allied Signal site as the main source of contamination.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N17R_PKC01A00 / Peak Creek / This portion of Peak Creek begins just downstream of the Rt. 99/Norfolk Southern crossing extending downstream to the inundation of Peak Creek in Claytor Lake (NE46).	4A	Copper	2006	L	1.83
VAW-N17R_PKC02A00 / Peak Creek / The segment begins downstream of the Washington Ave. Bridge (~0.20 miles) and extends on downstream to just below the Rt. 99 Bridge/Norfolk Southern Railway crossing of Peak Creek (NE46).	4A	Copper	2006	L	1.66

Peak Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Copper - Total Impaired Size by Water Type:			**3.49**

Sources:

Contaminated Sediments	Industrial/Commercial Site Stormwater Discharge (Permitted)	Sediment Resuspension (Contaminated Sediment)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N17R-01-ZN** **Peak Creek**

Cause Location: Impairment begins downstream of the Washington Ave. Bridge (~0.20 miles) on downstream to the inundation of Peak Creek in Claytor Lake.

City / County: Pulaski Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Zinc / 4A

The Peak Creek General Standard - Benthic (Metals) Total Maximum Daily Load (TMDL) received U.S. EPA approval on 8/30/2004 [Fed ID 7823/7822] and SWCB approval on 12/02/2004.

The TMDL finds copper (Cu) and zinc (Zn) as stressors for 3.49 miles to this 1996 (4.65 mi. pre-NHD) Listed benthic impairment. The likelihood of dissolved metals reaching acute levels of toxicity in the water column during low-flow and storm events was assessed. The impact of point source discharges of Cu and Zn during low flow was analyzed and determined that the concentrations of Cu and Zn would not likely approach the acute criteria for aquatic life (i.e., 13 ug/l and 120 ug/l for Cu and Zn, respectively). It was anticipated that acidic runoff from historic industrial sites may leach significant levels of dissolved Cu and Zn to the stream during storm events. The weight of evidence at this time, including site observations and collected data, points to soils at or from the Allied Signal site as the main source of contamination.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N17R_PKC01A00 / Peak Creek / This portion of Peak Creek begins just downstream of the Rt. 99/Norfolk Southern crossing extending downstream to the inundation of Peak Creek in Claytor Lake (NE46).	4A	Zinc	2006	L	1.83
VAW-N17R_PKC02A00 / Peak Creek / The segment begins downstream of the Washington Ave. Bridge (~0.20 miles) and extends on downstream to just below the Rt. 99 Bridge/Norfolk Southern Railway crossing of Peak Creek (NE46).	4A	Zinc	2006	L	1.66

Peak Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Zinc - Total Impaired Size by Water Type:			**3.49**

Sources:

Contaminated Sediments	Industrial/Commercial Site Stormwater Discharge (Permitted)	Sediment Resuspension (Contaminated Sediment)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N18R-01-BAC** **Crab Creek**

Cause Location: The upstream limit is the Crab Creek headwaters on the Ironto Quad. The downstream limit is at the Crab Creek mouth on the New River about 1.5 mi upstream of the Rt. 114 Bridge and downstream of Radford, Virginia (Riner, Blacksburg and Radford North Quads).

City / County: Montgomery Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli (E. coli) / 4A

The Crab Creek Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 8/10/2004 [Fed ID 18594 / 23405] and SWCB approved 12/02/2004 (formerly VAW-N18R-01). The waters are initially 303(d) Listed with the 2002 Assessment for fecal coliform (FC) bacteria causing non-support of the Recreational Use for 12.36 miles. The TMDL Study and allocations can be viewed at http://www.deq.virginia.gov. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

9-CBC009.81 (Rt. 111 Bridge) There are no additional data beyond the 2010 IR where the 2010 data window finds four of 15 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion. Exceedances range from 250 to greater than 2000 cfu/100 ml. Three non-exceeding E.coli observations remain within the 2012 data window. The 2008 assessment finds six of 18 E.coli samples exceed the instantaneous criterion and six of 15 exceed in 2006. The range of exceeding values is from 400 to greater than 2000 cfu/100 ml in 2008 and 2006.

9-CBC006.35 (Rt. 661 Bridge) Both the 2010 and 2012 data windows find four of 12 E.coli samples exceeding the instantaneous criterion. The range of exceedance is from 380 to 950 cfu/100 ml. E.coli data within the 2008 data window are three of six exceeding values. The 2006 assessment reports E.coli exceeds the WQS instantaneous criterion of 235 cfu/100 ml in eight of 16 observations. Exceeding values range from 250 to >800 cfu/100 ml. This station is located upstream of the former Christiansburg outfall.

9-CBC004.38 (Rt. 660 Bridge) There are no additional data beyond the 2010 data window. Five of 15 remaining escherichia coli (E.coli) observations in 2012 exceed the 235 cfu/100 ml instantaneous criterion ranging from 250 to 1200 cfu/100 ml. Data within the 2010 data window find exceedances ranging from 250 to 1200 cfu/100 ml in 14 of 35 observations. E.coli exceeds the 235 cfu/100 ml WQS instantaneous criterion in 16 of 33 observations within the 2008 data window. Exceeding values range from 280 to greater than 800 cfu/100 ml. 2006 E.coli results find 22 of 40 observations in excess of the instantaneous criterion and the same range of exceedance.

9-CBC001.00 (Route 663 Bridge near Walton) The 2020 data window finds five of 12 excursions. There are no additional data beyond the 2014 IR where six of 24 E.coli observations exceed the instantaneous criterion ranging from 250 to greater than 2000 cfu/100 ml. There were no additional data within the 2010 and 2012 data windows. Two of 15 remaining E.coli observations in 2012 exceed the instantaneous criterion at 250 and 1300 cfu/100 ml. 2010 values exceeding the instantaneous criterion range from 250 to 1300 cfu/100 ml in 10 of 35 samples. Nine of 27 E.coli samples exceed the instantaneous criterion ranging from 260 to greater than 800 cfu/100 ml in 2008. The 2006 Integrated Report (IR) finds nine of 23 E.coli samples exceed the instantaneous criterion. The range of exceeding values is the same as in 2008.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N18R_CBC01A00 / Crab Creek / This section of the mainstem Crab Creek extends from its mouth on the New River on upstream of the Walton community (NE58).	4A	Escherichia coli (E. coli)	2004	L	2.15
VAW-N18R_CBC02A00 / Crab Creek / These mainstem waters of Crab Creek extend from upstream of the Walton community to upstream of the Vicker community. The end of the WQS public water supply (PWS) designation (NE58).	4A	Escherichia coli (E. coli)	2004	L	1.18
VAW-N18R_CBC03A00 / Crab Creek / These waters are the Crab Creek mainstem from upstream of the Vicker community on upstream to the former Christiansburg STP outfall on Crab Creek (NE58).	4A	Escherichia coli (E. coli)	2004	L	1.10

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

VAW-N18R_CBC04A00 / Crab Creek / These mainstem waters extend from the former Christiansburg STP outfall upstream to Crab Creek's headwaters (NE58).	4A	Escherichia coli (E. coli)	2004	L	7.93

Crab Creek **Recreation**		Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
	Escherichia coli (E. coli) - Total Impaired Size by Water Type:			**12.36**

Sources:

Discharges from Municipal Separate Storm Sewer Systems (MS4)	Livestock (Grazing or Feeding Operations)	Municipal (Urbanized High Density Area)	Unspecified Domestic Waste
Wastes from Pets	Wildlife Other than Waterfowl		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N18R-01-BEN** **Crab Creek**

Cause Location: The upstream limit is the Crab Creek headwaters on the Ironto Quad. The downstream limit is at the Crab Creek mouth on the New River about 1.5 mi upstream of the Rt. 114 Bridge and downstream of Radford, Virginia (Riner, Blacksburg and Radford North Quads).

City / County: Montgomery Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic Macroinvertebrates Bioassessments / 4A

The 1996 303(d) Listing of the Crab Creek General Standard (Benthic) Total Maximum Daily Load (TMDL) Study is U.S. EPA approved 8/10/2004 [Sediment- Fed ID 18595 / 23406]. The SWCB approved the TMDL on 12/02/2004 (formerly VAW-N18R-01). The TMDL identifies sediment to be the primary stressor, with organic matter and nutrient enrichment as additional stressors. The waters remain impaired for the aquatic life use for 12.36 miles.

Natural seasonal effects are noted at the sites below. Pollution tolerant families are dominant in both seasons, the midge family Chironomidae in spring and the caddisfly family Hydropsychidae in fall. Beginning in spring 2002, Toms Creek was determined to be a more suitable ecoregion reference site because of similarity in size and watershed characteristics than the previous reference site (Sinking Creek, 9-SNK012.06). Agricultural and urban NPS runoff impact Crab Creek. Habitat impacts to this reach result in fine sediment deposition causing stream substrates to become embedded from bank erosion, altered hydrology, and degraded riparian buffers due to residences, roads, and railroad tracks. An apparent nutrient rich environment all contribute to the benthic impairment.

9-CBC007.55- Bio 'IN' with one sample collected in 2013 to evaluate effect of tributary stream restoration. VSCI score of 37.2

9-CBC006.35- Bio 'IM'; No additional data beyond the 2010 data window. Two 2008 Virginia Stream Condition Index (VSCI) surveys with an average score of 39.36 are within the 2012 and 2014 data windows. Three VSCI surveys (2003 & 2008) result in an average VSCI score of 43.33 are within the 2010 data window. Moderately pollution tolerant to pollution tolerant organisms (oligochaetes, chironomidae, hydropsychidae, and elmidae) are dominant in both seasons. Habitat impacts to this reach result in fine sediment deposition that causes stream substrates to become embedded, altered hydrology, and degraded riparian buffers due to roads. The 2008 IR reports five RBP II surveys scoring- 2000 spring 47.83, fall- 34.78; 2002 spring- 52.17, fall- 59.09 and 2003 spring- 65.22. Seasonal 5 year Spring score 55.07 and Fall score 46.94.

9-CBC004.38- Bio 'IM'; No additional data beyond the 2010 data window. Two 2008 VSCI surveys lie within the 2012 and 2014 data window with an average score of 53.0. Three VSCI surveys (2003 & 2008) with an average score of 52.28 are produced within the 2010 data window. There is some difference in the biological condition scores between seasons. Fall samples showed an increase of %mayflies over the spring samples. Agricultural and urban NPS runoff impact Crab Creek. Habitat impacts to this reach result in fine sediment deposition that causes stream substrates to become embedded, bank erosion from altered hydrology, and degraded riparian buffers due to pastures and railroad tracks. Five RBP II surveys scoring- 2000 spring- 39.13, fall- 34.78; 2002 spring- 65.22, fall- 59.09 and 2003 spring- 69.57. Seasonal 5 year Spring score 57.97; Fall score 46.94 are reported in the 2008 IR.

9-CBC001.00- No additional data beyond the 2014 data window. Bio 'IM' The 2012 and 2014 data windows find an average score of 55.0 from two surveys (2008). The 2010 IR finds impairment remains from three VSCI surveys (2003 & 2008) with an average score of 60.0. The moderately pollution tolerant midge family Chironomidae is dominant in both seasons. Impacts to the benthos and stream habitat are the same as noted at 9-CBC004.38. The 2008 IR reports three VSCI surveys (2002-2003) with an average score of 58.43. Pollution tolerant families are dominant in spring and fall, the midge family Chironomidae in spring and the caddisfly family Hydropsychidae in fall. Impacts to the benthic community and stream habitat are the same as noted at 9-CBC004.38.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N18R_CBC01A00 / Crab Creek / This section of the mainstem Crab Creek extends from its mouth on the New River on upstream of the Walton community (NE58).	4A	Benthic Macroinvertebrates Bioassessments	1996	L	2.15
VAW-N18R_CBC02A00 / Crab Creek / These mainstem waters of Crab Creek extend from upstream of the Walton community to	4A	Benthic Macroinvertebrates Bioassessments	1996	L	1.18

New River Basin

upstream of the Vicker community. The end of the WQS public water supply (PWS) designation (NE58).

VAW-N18R_CBC03A00 / Crab Creek / These waters are the Crab Creek mainstem from upstream of the Vicker community on upstream to the former Christiansburg STP outfall on Crab Creek (NE58).	4A	Benthic Macroinvertebrates Bioassessments	1996	L	1.10
VAW-N18R_CBC04A00 / Crab Creek / These mainstem waters extend from the former Christiansburg STP outfall upstream to Crab Creek's headwaters (NE58).	4A	Benthic Macroinvertebrates Bioassessments	1996	L	7.93

Crab Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			**12.36**

Sources:

Discharges from Municipal Separate Storm Sewer Systems (MS4)	Loss of Riparian Habitat	Municipal (Urbanized High Density Area)	Post-development Erosion and Sedimentation
Sediment Resuspension (Clean Sediment)	Sediment Resuspension (Contaminated Sediment)	Streambank Modifications/Destabilization	

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N18R-02-BAC** **Connellys Run**

Cause Location: Bacteria impairment begins near the headwaters of Connellys Run at an unnamed tributary (37°07'04" / 80°32'16") downstream to its mouth on the New River.

City / County: Radford City

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli (E. coli) / 5A

Fecal coliform (FC) bacteria excursions of the former WQS 400 cfu/100 ml instantaneous criterion cause non-support of the Recreational Use for 2.85 miles. The impairment for the 2004 303(d) Listed water remains. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

9-CNL000.01 (Bissett Park Bridge, Radford) One of six E.coli excursions reported during the 2020 data window. There are no additional data since the 2014 IR where escherichia coli (E.coli) data exceed the 235 cfu/100 ml instantaneous criterion in five of 24 samples. Excessive values range from 790 to greater than 2000 cfu/100 ml. 2012 and 2010 E.coli data exceed the 235 cfu/100 ml instantaneous criterion in four of 12 samples. Excessive values range from 260 to 1260 cfu/100 ml. The 2006 assessment finds FC exceedances of the former WQS instantaneous criterion of 400 cfu/100 ml in three of 11 observations. The range of excursions is from 500 to 1900 cfu/100 ml. The initial 2004 303(d) Listing is based on FC exceedances of the former WQS instantaneous criterion of 400 cfu/100 ml in three of nine observations with the range of exceedance the same as 2006.

90CNL000.06 - This station is not the 303(d) listing station but reports three of 6 E.coli excursions during the 2020 data window.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N18R_CNL01A02 / Connellys Run / Connellys Run from an unnamed tributary @37°07'23" / 80°33'21"; 1.57 miles upstream of the Connellys Run mouth downstream to its confluence on the New River (NE57).	5A	Escherichia coli (E. coli)	2010	L	1.60
VAW-N18R_CNL02A02 / Connellys Run / Connellys Run from near Rt. 611 @37°07'04" / 80°32'16"; 2.76 miles upstream of Connellys Run mouth downstream to the confluence of an unnamed tributary @37°07'23" / 80°33'21"; 1.57 miles upstream of the Connellys Run mouth on the New River (NE57).	5A	Escherichia coli (E. coli)	2010	L	1.25

Connellys Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			**2.85**

Sources:

- Livestock (Grazing or Feeding Operations)
- Municipal (Urbanized High Density Area)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N19R-01-BAC** **Little River (Upper)**

Cause Location: The bacteria impaired waters begin in the headwaters of Little River and extend downstream to the mouth of the West Fork of Little River (Check, Endicott and Floyd Quads).

City / County: Floyd Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli (E. coli) / 4A

The Little River Bacteria (Fed ID: 41519) TMDL Study is U.S. EPA approved on 3/14/2012 and State Water Control Board (SWCB) approved 3/25/2013. The original 2004 fecal coliform (FC) bacteria 303(d) Listing is extended downstream and upstream based on escherichia coli (E.coli) bacteria collections within the 2006 data window. The waters are impaired for 34.67 miles for failure to support the Recreational Use. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

9-LRV069.88 (Rt. 641 Bridge) There are no additional data beyond the 2008 Integrated Report (IR) where four of 12 E.coli observations exceed the 235 cfu/100 ml instantaneous criterion within the 2008 and 2010 data windows. Values in excess of the criterion range from 500 to 1500 cfu/100 ml. The 2006 IR reports three of nine E.coli observations exceed the instantaneous criterion. Values in excess of the criterion range from 350 to 1500 cfu/100 ml.

9-LRV065.57 (Rt. 639 Bridge) Seven of 12 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion within the 2018 data window. Excursions range from 266 to 805 cfu/100 ml. The 2012 data window finds E.coli exceeds the instantaneous criterion in seven of 15 samples. Exceeding values range from 350 to 1800 cfu/100 ml. Both the 2008 and 2010 data windows find escherichia coli (E.coli) exceeds the instantaneous criterion in four of 11 samples. Exceeding values range from 430 to 800 cfu/100 ml.

9-LRV056.74 (Rt. 221 Bridge) There are no additional data beyond the 2008 IR where four of 12 E.coli observations exceed the 235 cfu/100 ml instantaneous criterion. Maximum values exceeding the criterion range from 400 cfu/100 ml to greater than 2000. The 2006 assessment finds three of nine E.coli observations exceed the instantaneous criterion with the same range of exceedance as 2008. The original 2004 303(d) Listing is based on exceedance of the former fecal coliform bacteria 400 cfu/100 ml instantaneous criterion where two observations exceed from 11 samples. 2004 IR FC values exceeding the standard are 500 and 1400 cfu/100 ml.

9-LRV044.49 (Rt. 615 Bridge)2020 data window: one of 12 excursions. There are no additional data beyond the 2014 data window. Escherichia coli (E.coli) exceedances are found in four of 12 observations. Exceeding values range from 1650 to greater than 2000 cfu/100 ml within the 2014 data window. There are no additional data within the 2010 and 2012 data windows. The 2008 IR reports E.coli exceedances are found in three of 11 observations. Exceeding values range from 380 to greater than 2000 cfu/100 ml. Two of eight E.coli exceedances are found in 2006 at 380 and 450 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N19R_LRV01A00 / Little River / Little River mainstem waters from the West Fork Little River confluence upstream to the mouth of Oldfield Creek (NE49).	4A	Escherichia coli (E. coli)	2006	L	8.73
VAW-N19R_LRV02A00 / Little River / Little River mainstem waters from the mouth of Oldfield Creek upstream to the mouth of Beaverdam Creek (NE49).	4A	Escherichia coli (E. coli)	2006	L	7.59
VAW-N19R_LRV03A00 / Little River / Little River mainstem waters from the mouth of Beaverdam Creek upstream to near its headwaters (NE48).	4A	Escherichia coli (E. coli)	2006	L	18.35

Little River (Upper) **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			**34.67**

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N19R-01-TEMP** **Little River**

Cause Location: Little River mainstem waters from the mouth of the West Fork Little River upstream to the mouth of Payne Creek.

City / County: Floyd Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature / 4A

The Little River Temperature (Fed ID: 41518) TMDL Study U.S. EPA approved on 3/14/2012 and State Water Control Board (SWCB) approved 3/25/2013. The 303(d) Listed natural trout water temperature impairment is extended both upstream and downstream in 2008 from the original impairment defined by station 9-LRV056.74 in 2002. The upstream extension is based on station 9-LRV065.57. And the downstream extension on station 9-LRV044.49. Total non-support of the Aquatic Life Use is 34.67 miles.

9-LRV065.57- (Rt. 639 Bridge) The Class VI 20°C criterion is exceeded within the 2018 data window at 23.4°C (6/22/15) and 22.3°C (9/2/15). The 2012 data window reports temperature exceedances in two of 19 measurements. Excursions are 20.4 °C on 6/29/2005 and 23.7°C on 8/5/2010. Temperature exceedances are found in two of 12 measurements in 2008 and 2010. Each are in excess of the WQS Class VI natural trout water criterion of 20°C. Excursions are both at 20.4 °C on 8/02/2004 and 6/29/2005.

9-LRV056.74- (Rt. 221 Bridge) Temperature data within the 2014 data window are insufficient to de-list these waters (0/4 samples). The temperature impairment remains. The 2008 IR reports temperature exceedances of the natural trout water criterion occur in two of 12 measurements. The excursions occur on 8/02/2004 at 21.4 °C and 6/29/2005 at 21.3°C within the 2008 data window. The 2006 Integrated Report (IR) records two of 12 temperature measurements exceeding the criterion with excursions in May of 2000 (at 21.2°C) and August of 2004 (at 21.4 °C). Two of 11 measurements exceed in 2004. The exceedances occur in July 1998 (at 25.7°C) and May of 2000 (at 21.2°C). The 2002 assessment found temperature exceeds in three of 16 measurements occurring in July 1997 and 1998 (2) and one in May of 2000.

9-LRV044.49- (Rt. 615 Bridge) There are no additional data beyond the 2014 data window. Three temperature measurements exceed the 20°C natural trout criterion at 26.2°C (7/21/2011), 20.5°C (9/13/2011) and 23.9°C (8/29/2012) from 12 measurements within the 2014 data window. There were no additional data within the 2010 and 2012 data windows. The 2008 IR reports two temperature measurements exceed the Class VI 20 °C natural trout criterion at 23.3 °C (8/02/2004) and 22.8°C (6/29/2005) from 12 measurements.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N19R_LRV01A00 / Little River / Little River mainstem waters from the West Fork Little River confluence upstream to the mouth of Oldfield Creek (NE49).	4A	Temperature	2008	L	8.73
VAW-N19R_LRV02A00 / Little River / Little River mainstem waters from the mouth of Oldfield Creek upstream to the mouth of Beaverdam Creek (NE49).	4A	Temperature	2002	L	7.59
VAW-N19R_LRV03A00 / Little River / Little River mainstem waters from the mouth of Beaverdam Creek upstream to near its headwaters (NE48).	4A	Temperature	2008	L	18.35

Little River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Temperature - Total Impaired Size by Water Type:			**34.67**

Sources:

Loss of Riparian Habitat Natural Sources

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N19R-02-BAC** **Meadow Run**

Cause Location: Meadow Run (MDR) from its headwaters downstream to its confluence with Little River.

City / County: Floyd Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli (E. coli) / 4A

The Recreational Use remains impaired for 4.00 miles for the original 2006 303(d) Listing. The Little River Bacteria (Fed ID: 41519) TMDL Study is U.S. EPA approved on 3/14/2012 and State Water Control Board (SWCB) approved 3/25/2013.

9-MDR000.34 (Rt. 641 Bridge) There are no additional data beyond the 2012 Integrated Report (IR) where nine of 15 Escherichia coli (E.coli) samples exceed the 235 cfu/100 ml instantaneous criterion. Exceeding values range from 400 to 1200 cfu/100 ml. The 2008 and 2010 IRs report four of 12 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion. Exceeding values range from 630 to greater than 2000 cfu/100 ml. The 2006 range of exceedance is the same from three of nine E.coli observations.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N19R_MDR01A04 / Meadow Run / Meadow Run from its headwaters downstream to its confluence with Little River (NE48).	4A	Escherichia coli (E. coli)	2006	L	4.00

Meadow Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			**4.00**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N19R-02-BEN** **Meadow Run**

Cause Location: Meadow Run (MDR) from its headwaters downstream to its confluence with Little River.

City / County: Floyd Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic Macroinvertebrates Bioassessments / 4A

The Little River Benthic (Sediment Fed ID: 41517) TMDL Study is U.S. EPA approved on 3/14/2012 and State Water Control Board (SWCB) approved 3/25/2013. The original 2008 assessment finds the Aquatic Life Use impaired for 4.00 miles from the results of Virginia Stream Condition Index (VSCI) surveys.

9-MDR003.60 (Off Rt. 610) Bio 'IM' There are no additional data beyond the 2008 IR where two 2001 VSCI surveys with an average score of 45.8 are reported. The benthic community was considerably better in the fall (score 60.6) although taxa richness and percentage of stoneflies-caddisflies (Hydropsychidae) were still low. The station is located downstream and adjacent to residences with mowed lawns, a driveway and a horse pasture that impact bank vegetation and the riparian zone in this reach. The stream substrate is impacted by sediment deposition.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N19R_MDR01A04 / Meadow Run / Meadow Run from its headwaters downstream to its confluence with Little River (NE48).	4A	Benthic Macroinvertebrates Bioassessments	2008	L	4.00

Meadow Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			**4.00**

Sources:

- Loss of Riparian Habitat
- Sediment Resuspension (Clean Sediment)
- Streambank Modifications/Destabilization

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N19R-03-BAC** **Pine Creek**

Cause Location: Pine Creek mainstem from its mouth on Little River upstream to the impounding structure of a pond.

City / County: Floyd Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli (E. coli) / 4A

The Little River Bacteria (Fed ID: 41519) TMDL Study is U.S. EPA approved on 3/14/2012 and State Water Control Board (SWCB) approved 3/25/2013. The waters remain impaired for non-support of the Recreational Use. Bacteria exceedances cause the 2006 303(d) Listing for 3.91 miles.

9-PNC000.69 (Rt. 682 Bridge) There are no additional data beyond the 2008 IR where escherichia coli (E.coli) exceed the 235 cfu/100 ml instantaneous criterion in three of 11 samples in 2008. Excursions range from 380 to 1000 cfu/100 ml. 2006 E.coli exceedances are three of eight with the same range of exceedance found in 2008.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N19R_PNC01A06 / Pine Creek / Pine Creek mainstem from its mouth on Little River upstream to just above the intersection of Sandy Flats Road (Rt. 690) (NE49).	4A	Escherichia coli (E. coli)	2006	L	3.91

Pine Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			**3.91**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N19R-03-TEMP** **Pine Creek**

Cause Location: Pine Creek mainstem from its mouth on Little River upstream to the impounding structure of a pond.

City / County: Floyd Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature / 4A

The Little River Temperature (Fed ID: 41518) TMDL Study is U.S. EPA approved on 3/14/2012 and State Water Control Board (SWCB) approved 3/25/2013. The Aquatic Life Use is not supported due to temperature exceedances of the WQS Class VI natural trout water criterion. The impairment extends 3.91 miles.

9-PNC000.69- There are no additional data beyond the 2008 IR. Two of 12 temperature measurements exceed the natural trout water criterion of 20°C. Each excursion is 20.5 °C on 8/02/2004 and 21.3°C on 6/29/2005.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N19R_PNC01A06 / Pine Creek / Pine Creek mainstem from its mouth on Little River upstream to just above the intersection of Sandy Flats Road (Rt. 690) (NE49).	4A	Temperature	2008	L	3.91

Pine Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature - Total Impaired Size by Water Type:			**3.91**

Sources:

Loss of Riparian Habitat Natural Sources

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N20R-01-BAC** **Dodd Creek and West Fork Dodd Creek**

Cause Location: Dodd Creek: The upper limit extends from the junction of Routes 710 and 714 downstream to the Dodd Creek mouth on the West Fork Little River (Woolwine and Floyd Quads).
West Fork Dodd Creek and unnamed tributary XDC: Mainstem extends from its confluence with Dodd Creek upstream to the mouth of an unnamed tributary (XDC). The mouth of the unnamed tributary is located at 36°52'33" / 80°19'43".
West Fork Little River: West Fork Little River waters from its mouth on Little River upstream to the mouth of Dodd Creek on the West Fork Little River.

City / County: Floyd Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli (E. coli) / 4A Fecal Coliform / 4A

The Dodd Creek Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 12/11/2002 [Fed ID 9456 / 23407] and State Water Control Board (SWCB) approved on 6/17/2004 (formerly VAW-N20R-01). The Bacteria Implementation Plan (IP) received SWCB approval on 6/27/2007. The Little River Bacteria (Fed ID: 41519) TMDL Study is U.S. EPA approved on 3/14/2012 and SWCB approved on 3/25/2013. The Bacteria TMDLs can be viewed at http://www.deq.virginia.gov. The waters were originally 1998 303(d) listed based on the former fecal coliform (FC) WQS instantaneous criterion of 1000 cfu/100 ml and 200 geometric mean (8.90 miles). Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. Additional bacteria sampling above and below the 1998 303(d) Dodd Creek Impaired waters have extended the original size. Tributary additions include the West Fork of Dodd Creek (7.04 miles) and an unnamed tributary (XDC) in 2002 to the West Fork (0.53 miles).

Dodd Creek:
9DDD-1-NCNR- Citizen Lv. 2 data for escherichia coli (E.coli) find a 'High' probability of adverse conditions from five exceedances of eight samples. Excessive values range from 350 to 1400 cfu/100 ml in excess of the 235 cfu/100 ml instantaneous criterion. There are no additional data beyond the 2012 Integrated Report (IR).

9-DDD004.64 (Route 720 Bridge above Floyd STP) There are no additional data beyond the 2008 IR where E.coli exceeds the instantaneous criterion in two of nine observations at 280 and 1200 cfu/100 ml. The 2004 IR reports three of 11 FC samples exceed the former WQS 400 cfu/100 ml instantaneous criterion.

9-DDD002.62- (Route 696 Bridge below Floyd STP) There are no additional data beyond the 2014 assessment. Twenty one of 36 escherichia coli (E.coli) samples exceed the 235 cfu/100 ml instantaneous criterion within the 2014 data window. Values in excess of the criterion range from 250 cfu/100 ml to greater than 2000. 2012 data find 21 of 33 escherichia coli (E.coli) samples exceed the 235 cfu/100 ml instantaneous criterion. Values in excess of the criterion range from 250 cfu/100 ml to greater than 2000. E.coli exceeds the 235 cfu/100 ml instantaneous criterion in 15 of 21 samples within the 2010 data window. Excessive values range from 250 cfu/100 ml to greater than 2000. Six of nine E.coli samples exceed the instantaneous criterion in 2008. Values in excess range from 250 cfu/100 ml to greater than 2000.

9-DDD001.00- (Route 8 Bridge below Floyd STP) There are no additional data beyond the 2014 Integrated Report (IR) where E.coli was found to exceed the instantaneous criterion in 16 of 36 samples. Exceedances range from 250 to greater than 2000 cfu/100 ml. E.coli exceeds the instantaneous criterion in 13 of 33 samples in 2012. Exceedances range from 250 to greater than 2000 cfu/100 ml. 2010 data find E.coli exceeds the instantaneous criterion in nine of 21 samples. Exceedances range from 350 to greater than 2000 cfu/100 ml. 2008 exceedances of the E.coli instantaneous criterion are two of nine samples ranging from 350 and 1900 cfu/100 ml.

9-DDD008.20- No additional data beyond 2004 Integrated Report (IR). The 2004 IR reports FC exceedances of the former 400 cfu/100 ml WQS instantaneous criterion occur in 3 of 3 observations (max. 1700); one FC geometric mean calculation results in the exceedance of the former 200 cfu/100 ml standard. No E.coli samples collected.

West Fork Dodd Creek:
9-DDW004.02 (Rt. 714 Bridge) No additional data beyond the 2004 IR that reports FC exceedances of the former WQS 400 cfu/100 ml instantaneous criterion occur in 4 of 4 observations (max. 9200). Additionally the former FC geometric mean exceeds in one calculation.

9-DDW000.02- (Rt. 8 Bridge) Twenty of 36 escherichia coli (E.coli) samples exceed the 235 cfu/100 ml instantaneous criterion ranging from 250 to 1800 cfu/100 ml within the 2014 data window. 2012 E.coli data finds 12 of 24 samples exceeding the

instantaneous criterion. Values in excess of the criterion range from 250 to 1800 cfu/100 ml. The 2010 assessment finds seven of 12 Escherichia coli (E.coli) samples exceed the 235 cfu/100 ml instantaneous criterion. Exceedances range from 250 to 1600 cfu/100 ml.

Unnamed Tributary XDC: (The unnamed tributary portion extends from just upstream of the Rt. 8 crossing (36°52'18" / 080°20'03") downstream to its confluence with the West Fork Dodd Creek (36°52'33" / 080°19'43" - Floyd Quad.) 9-XDC000.48 (Rt. 807 Bridge) No additional data beyond the 2004 IR. FC exceedances of the former WQS 400 cfu/100 ml instantaneous criterion occur in 4 of 4 observations (max. 6400). Additionally the former WQS geometric mean exceeds in one calculation.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N20R_DDD01A00 / Dodd Creek / Dodd Creek mainstem waters from its mouth on the West Fork of Little River upstream to the Floyd/Floyd County PSA outfall on Dodd Creek (NE51).	4A	Escherichia coli (E. coli)	2008	L	3.84
VAW-N20R_DDD02A00 / Dodd Creek / Dodd Creek mainstem waters from the Floyd/Floyd County PSA outfall on Dodd Creek upstream to the West Fork of Dodd Creek mouth on Dodd Creek, just upstream of the Rt. 8 Bridge (NE51).	4A	Escherichia coli (E. coli)	2008	L	2.60
VAW-N20R_DDW01A02 / West Fork Dodd Creek / West Fork Dodd Creek mainstem from its confluence with Dodd Creek upstream to the mouth of an unnamed tributary (XDC). The mouth of the unnamed tributary is located @36°52'33" / 80°19'43" (NE51).	4A	Escherichia coli (E. coli)	2010	L	1.31

Dodd Creek and West Fork Dodd Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			**7.75**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N20R_DDD03A02 / Dodd Creek / Dodd Creek mainstem from the West Fork of Dodd Creek mouth on Dodd Creek, just upstream of the Rt. 8 Bridge on upstream near the junction of Routes 710 and 714 near the Blue Ridge Parkway (NE51).	4A	Fecal Coliform	1998	L	2.46
VAW-N20R_DDW02A02 / West Fork Dodd Creek / West Fork Dodd Creek mainstem from the confluence of an unnamed tributary (XDC) upstream to its headwaters. The mouth of the unnamed tributary is located @36°52'33" / 80°19'43" (NE51).	4A	Fecal Coliform	1998	L	5.73
VAW-N20R_XDC01A02 / West Fork Dodd Creek, UT (XDC) / An unnamed tributary (XDC) to the West Fork Dodd Creek from its confluence upstream to its headwaters. The mouth of the unnamed tributary is located @36°52'33" / 80°19'43" (NE51).	4A	Fecal Coliform	2002	L	0.53

Dodd Creek and West Fork Dodd Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			**8.72**

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N20R-01-TEMP** **West Fork Dodd Creek**

Cause Location: West Fork Dodd Creek mainstem from its confluence with Dodd Creek upstream to the mouth of an unnamed tributary (XDC). The mouth of the unnamed tributary is located @36°52'33" / 80°19'43".

City / County: Floyd Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature / 4A

The Little River Temperature (Fed ID: 41518) TMDL Study is U.S. EPA approved on 3/14/2012 and State Water Control Board (SWCB) approved 3/25/2013.

9-DDW000.02 (Rt. 807 Bridge) There are no additional data beyond the 2014 data window. 2014 data reveal five of 36 temperature measurements in excess of the WQS Class VI 20°C criterion. Temperature exceedances in addition to those within the 2012 IR are 24.6°C on 7/21/2011 and 22.2°C on 8/29/2012. 2012 Class VI temperature exceedances are found in three of 24 measurements occurring on 7/18/2007 at 20.9°C: 9/11/2007 at 22.3°C and 24.3°C on 8/5/2010. Temperature exceedances within the 2010 data window are found in two of 12 measurements that occur on 7/18/2007 at 20.9°C and 9/11/2007 at 22.3°C. 2002 IR reports temperature exceeds the 20° natural trout criterion in two of two measurements. Exceeding values are 23.3°C on 7/28/99 and 20.1°C on 6/28/00. The 2002 Temperature 303(d) Listing remains.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N20R_DDW01A02 / West Fork Dodd Creek / West Fork Dodd Creek mainstem from its confluence with Dodd Creek upstream to the mouth of an unnamed tributary (XDC). The mouth of the unnamed tributary is located @36°52'33" / 80°19'43" (NE51).	4A	Temperature	2002	L	1.31

West Fork Dodd Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Temperature - Total Impaired Size by Water Type:			**1.31**

Sources:

Natural Sources

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N20R-02-TEMP** **Dodd Creek**

Cause Location: Dodd Creek from it's confluence with the West Fork Little River upstream to the mouth of the West Fork of Dodd Creek

City / County: Floyd Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature / 4A

There are no additional Dodd Creek data beyond the 2014 assessment. The 2012 assessment finds the Aquatic Life Use is impaired for 8.90 miles due to temperature exceedances of these Class V (21°C) stockable trout waters criterion. The impairment is extended upstream 2.19 miles with citizen data from station 9DDD-1-NCNR in the 2010 assessment. The Little River Temperature (Fed ID: 41518) TMDL Study is U.S. EPA approved on 3/14/2012 and State Water Control Board (SWCB) approved 3/25/2013.

Dodd Creek (Lower): Length 3.84 miles.
9-DDD002.62- (Route 696 Bridge below Floyd STP) There are no additional data beyond the 2014 data window. The 2014 Integrated Report (IR) finds the 21°C stockable trout water criterion exceeds in four of 36 measurements at 21.7°C on 9/11/2007; 23.9°C on 8/5/2010; 23.9°C on 7/21/2011 and 21.6°C on 8/29/2012. The 21°C Class V criterion exceeds in four of 33 measurements at 22.2°C on 8/10/2005; 21.6°C on 8/14/2006; 21.7°C on 9/11/2007 and 23.9°C on 8/5/2010 within the 2012 data window. The 2010 IR finds three of 21 measurements at 22.2°C on 8/10/2005; 21.6°C on 8/14/2006; and 21.7°C on 9/11/2007. 2008 results report two of nine measurements at 22.2°C on 8/10/2005 and 21.6°C on 8/14/2006.

9-DDD001.00- (Route 8 Bridge below Floyd STP)There are no additional data beyond the 2014 data window. The 2014 Integrated Report (IR) finds the stockable trout water criterion exceeds in four of 36 measurements at 21.1°C on 9/11/2007; 23.7°C on 8/5/2010; 24.4°C on 7/21/2011 and 21.9°C on 8/29/2012. The 2012 IR reports the Class V criterion exceeds in four of 33 measurements at 22.0 on 8/10/2005; 22.1°C on 8/14/2006; 21.1°C on 9/11/2007 and 23.7°C on 8/5/2010. The 2010 assessment finds the stockable trout water criterion exceeds in three of 21 measurements at 22.0 on 8/10/2005; 22.1°C on 8/14/2006; and 21.1°C on 9/11/2007. The 2008 IR found two of nine temperature measurements exceed the Class V criterion at 22.0 on 8/10/2005 and 22.1°C on 8/14/2006.

Dodd Creek (Upper) Length 5.06 miles.
9DDD-1-NCNR (Rt. 710 Bridge) There are no additional data beyond the 2012 IR where Citizen Level 3 data finds three of 14 temperature measurements exceed the Class V criterion of 21°C. Excessive values are 25°C on 6/8/2008; 22.5°C on 8/10/2008; and 22.5°C on 9/14/2008. The 2010 data window reveals three of eight temperature measurements exceeding the criterion on the same dates in 2010. These data extended the temperature impairment upstream 2.19 miles in 2010.

Single measurement exceedances of the Class V criterion occur upstream in 2008 and 2010. There are no additional data reported for Station 9-DDD004.64 (Rt. 720 Bridge above Floyd STP) where one temperature exceedance from nine measurements is found at 22.4°C on 8/10/2005 within the 2008, 2010 and 2012 data windows.

Historically stations 9-DDD006.27 (Rt. 8 Bridge), 9-DDD004.75 (Rt. 720 Bridge) and 9-DDD004.64 (Route 720 Bridge above Floyd STP) have recorded temperature excursions upstream albeit in drought conditions. 9-DDD006.27 21.6°C on 7/28/99 - One of two temperature measurements exceed the 21°C criterion. 9-DDD004.75 records one excursion at 21.9°C on 7/28/99. The extension of the impairment to the mouth of the West Fork of Dodd Creek is in recognition of these data and temperature exceedances on the West Fork of Dodd Creek.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N20R_DDD01A00 / Dodd Creek / Dodd Creek mainstem waters from its mouth on the West Fork of Little River upstream to the Floyd/Floyd County PSA outfall on Dodd Creek (NE51).	4A	Temperature	2008	L	3.84
VAW-N20R_DDD02A00 / Dodd Creek / Dodd Creek mainstem waters from the Floyd/Floyd County PSA outfall on Dodd Creek upstream to the West Fork of Dodd Creek mouth on Dodd Creek, just upstream of the Rt. 8 Bridge (NE51).	4A	Temperature	2008	L	2.60

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

VAW-N20R_DDD03A02 / Dodd Creek / Dodd Creek mainstem from the West Fork of Dodd Creek mouth on Dodd Creek, just upstream of the Rt. 8 Bridge on upstream near the junction of Routes 710 and 714 near the Blue Ridge Parkway (NE51).	4A	Temperature	2010	L	2.46

Dodd Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Temperature - Total Impaired Size by Water Type:			**8.90**

Sources:

Natural Sources

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N20R-03-TEMP** **West Fork Little River**

Cause Location: West Fork Little River waters from its mouth on Little River upstream to the mouth of Dodd Creek on the West Fork Little River (NE51).

City / County: Floyd Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature / 4A

The Little River Temperature (Fed ID: 41518) TMDL Study is U.S. EPA approved on 3/14/2012 and State Water Control Board (SWCB) approved 3/25/2013. The initial 2018 listing for exceedances of the Class VI (20°C) Natural Trout Waters criterion applies to 4.53 miles of the West Fork Little River. The West Fork Little River Aquatic Life Use impairment is nested in the Little River Temperature (Fed ID: 41518) TMDL Study.

West Fork Little River: Length 4.53 miles.
9-LWF004.55 (Rt. 8 Bridge North of Floyd) - The 2018 data window finds four of 12 temperature measurements exceeding the Class VI Natural Trout Waters 20°C criterion. Excursions are found on the following sampling dates and temperature measurements: 6/22/15 at 23.4°C, 7/23/15 at 21.2°C, 8/20/15 at 21.3°C, and 9/2/15 at 21.9°C.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N20R_LWF01A00 / West Fork Little River / West Fork Little River waters from its mouth on Little River upstream to the mouth of Dodd Creek on the West Fork Little River (NE51).	4A	Temperature	2018	L	4.53

West Fork Little River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Temperature - Total Impaired Size by Water Type:			**4.53**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N20R-04-BEN** **Dodd Creek, Unnamed Tributary (XEM)**

Cause Location: Unnamed tributary XEM from its mouth on Unnamed tributary XEL upstream to its headwaters (NE51).

City / County: Floyd Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic Macroinvertebrates Bioassessments / 5A

This initial 0.71 mile 2018 data window Aquatic Life Use listing is based on Virginia Stream Condition Index scores collected as part of a special study.

9-XEM000.36 (Unnamed tributary (XEL) to Dodd Cr., UT)- Two 2016 VSCI scores define the Aquatic Life Use Impairment: Spring 39.0, Fall 63.9. This stream originates downslope of the Floyd County landfill (landfill was built on top of the original stream channel). Approximately 0.18 miles upstream of the sample station (9-XEM000.36), the stream surfaces from a spring box and is impacted by growths of iron bacteria and Sphaerotilus (sewage fungus). The spring 2016 sediment discharge appears to be affecting the benthic community. Certain stonefly taxa are tolerant of iron precipitate and can thrive in streams moderately impacted by landfills and mines.

9-XEM000.30 (Unnamed tributary (XEL) to Dodd Cr., UT) - Three VSCI spring surveys (2011-2012, 2016) report an average score of 58.2. The stream surfaces from the Floyd landfill in a spring box and is impacted by growths of iron bacteria and sphaerotilus (sewage fungus). The stream substrate was too impacted by bacterial growth to sample for benthic macroinvertebrates; A May 2011 habitat survey shows most parameters are in the optimal range. Sediment deposition was the only parameter found to be in the marginal range. During the 2012 habitat survey, scores for sediment deposition and several other parameters had declined, some were due to lower stream flow. The 2011 sample is dominated by mayflies, stoneflies and other generally pollution-sensitive taxa. The dominant mayfly taxa, Ephemerellidae (50% of all organisms) is somewhat tolerant of excessive sediment and several stonefly taxa present are known to be tolerant of iron precipitate and organic enrichment. The June 2012 sample finds the number of mayflies very low but stoneflies (51%) are numerous.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N20R_XEM01A08 / Unnamed Tributary (XEM) / Unnamed tributary XEM from its mouth on Unnamed tributary XEL upstream to its headwaters (NE51).	5A	Benthic Macroinvertebrates Bioassessments	2018	L	0.71

Dodd Creek, Unnamed Tributary (XEM)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			**0.71**

Sources:

Upstream Source

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N21R-01-BAC** **Little River (Lower)**

Cause Location: The upper limit begins at the confluence of Dodd Creek (N19R) extending downstream to the Little River mouth on the New River (N21R).

City / County: Floyd Co. Montgomery Co. Pulaski Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli (E. coli) / 4A Fecal Coliform / 4A

The Little River Bacteria (Fed ID: 41519) TMDL Study is U.S. EPA approved on 3/14/2012 and State Water Control Board (SWCB) approved on 3/25/2013. Exceedances of the former WQS fecal coliform (FC) bacteria instantaneous criterion of 1000 cfu/100 ml required the initial 2002 bacteria 303(d) Listing based on data from the United States Geological Survey (USGS) station 03170000. Two of 14 observations exceed the former instantaneous criterion. Application of the revised 400 cfu/100 ml instantaneous criterion would result in four of 14 exceedances above the former criterion ranging from 420 to 14,900 cfu/100 ml. Due to the previous 2002 1.39 mile riverine 303(d) Listing from Meadow Creek confluence downstream to the backwaters of Little River Reservoir and 2004 bacteria results from 9-LRV000.34 the riverine impairment is extended 0.49 miles downstream. The 2012 Integrated Report (IR) extends the upper limit to the confluence of Dodd Creek incorporating the West Fork of Little River. The West Fork of Little River is nested within the overall Little River Bacteria TMDL. The impounded waters (60.44 acres) of Little River Reservoir are now bacteria impaired and were incorporated with the 2008 IR.

The 2004 IR establishes a 13.41 mile bacteria impairment at 9-LRV032.72 where three of eight fecal coliform bacteria observations exceed the former WQS 400 cfu/100 ml instantaneous criterion within the 2004 data window. Exceedances range from 600 to 1100 cfu/100 ml. The 2004 303(d) List describes the impaired extent from the end of Rt. 706 downstream to the confluence of Sidney Creek. This 2004 portion of Little River is separate from the original 2002 bacteria 303(d) Listing because of hydrology and the lack of bacteria data between the two initial listings on the mainstem of Little River.

Additional bacteria sample collection within the 2008 and 2010 data windows define the entire 44.22 mile impairment below. Future assessment and 303(d) Listings replace fecal coliform with escherichia coli (E.coli) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

West Fork Little River (Nested):
9-LWF004.55 (Rt 8 Bridge, North of Floyd)- There are no additional data beyond the 2012 Integrated Report (IR) where five of 12 Escherichia coli (E.coli) samples exceed the 235 cfu/100 ml instantaneous criterion. Excessive values range from 280 to greater than 2000 cfu/100 ml.

Little River:
9-LRV044.49 (Rt. 615 Bridge) There are no additional data beyond the 2008 IR. E.coli exceedances are found in three of 11 observations within the 2008 and 2010 data windows. Exceeding values greater than the instantaneous criterion of 235 cfu/100 ml range from 380 to greater than 2000 cfu/100 ml. Two exceedances from eight E.coli observations exceed the instantaneous criterion in 2006. Exceeding values are 380 and 450 cfu/100 ml.

9-LRV032.72 (Rt. 617 Bridge) There are no additional data beyond the 2006 IR where four of 11 FC observations exceed the former WQS 400 cfu/100 ml instantaneous criterion. Exceedances range from 600 to 3,300 cfu/100 ml. The same total observations and exceedances are found within the 2008 data window. The remaining FC data within the 2010 data window find one of three samples in excess of the former instantaneous criterion at 3300 cfu/100 ml. There are no Escherichia coli (E.coli) data to assess.

9-LRV016.68 (Rt. 787 Bridge) One E.coli sample out of 12 within the 2018 data window exceeds the 235 cfu/100 ml instantaneous criterion at 512 cfu/100 ml. The 2012 and 2014 assessment find two of 12 escherichia coli (E.coli) samples exceed the 235 cfu/100 ml instantaneous criterion at 380 and 1200 cfu/100 ml. Data within the 2010 data window find one of two FC samples exceed the former WQS instantaneous criterion of 400 cfu/100 ml at greater than 8000 cfu/100 ml. There are no Escherichia coli (E.coli) data to assess. Two of 10 FC samples exceed the instantaneous criterion within both the 2006 and 2008 data windows. Each excursion is 900 and greater than 8000 cfu/100 ml. There are no additional beyond the 2006 IR. The same total observations and exceedances are found within the 2008 data window.

9-LRV012.58 (Rt. 787 pull off) The 2016 data window finds three of 12 escherichia coli (E.Coli) samples in exceedance of the 235 cfu/100 ml instantaneous standard. Exceedances range from 275 to 1075 cfu/100 ml.

9-LRV009.11 (Route 693 Bridge at Graysontown) The 2018 data window finds eleven of 36 E.coli samples in exceedance of

the 235 cfu/100 ml instantaneous criterion. Ten of 36 escherichia coli (E.Coli) samples exceed the 235 cfu/100 ml instantaneous criterion in the 2016 IR data window. 2016 exceedances range from 400 to greater than 2000 cfu/100 ml. The 2014 data window finds five of 24 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion ranging from 400 to greater than 2000 cfu/100 ml. Two of 12 Escherichia coli (E.coli) samples exceed the 235 cfu/100 ml instantaneous criterion at 400 and 1000 cfu/100 ml in 2012. Data within the 2010 data window find one of three samples in excess of the former WQS instantaneous criterion of 400 cfu/100 ml at 500 cfu/100 ml. Data within both the 2006 and 2008 IRs reveal FC exceeds the instantaneous criterion in two of 11 samples at 500 and 600 cfu/100 ml. The same total observations and exceedances are found within the 2008 data window. Note: USGS 03170000 (Little R. at Graysontown) an original 2002 listing station is at the same location.

9-LRV000.44 (Above Little River Dam) There are no additional data beyond the 2010 IR where E.coli exceeds the 235 cfu/100 ml instantaneous criterion in two of seven observations. Exceeding values are 420 and 1000 cfu/100 ml.

9-LRV000.34 (Route 605 Bridge- below Little River Dam) Both 2012 and 2010 E.coli data exceed the 235 cfu/100 ml instantaneous criterion in three of 12 samples. Values in excess of the criterion range from 250 to greater than 2000 cfu/100 ml. Data within the 2008 data window find four of 14 FC samples in excess of the former 400 cfu/100 ml criterion. The range of exceedance is from 500 cfu/100 ml to 7300. The same four exceeding values are found in the 2006 IR from 20 FC observations. No additional data is available beyond the 2012 data window.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N20R_LWF01A00 / West Fork Little River / West Fork Little River waters from its mouth on Little River upstream to the mouth of Dodd Creek on the West Fork Little River (NE51).	4A	Escherichia coli (E. coli)	2012	L	4.53
VAW-N21L_LRV01A02 / Little River Reservoir / Little River Reservoir from its impounding structure upstream to its backwaters.	4A	Escherichia coli (E. coli)	2008	L	60.44
VAW-N21R_LRV01A00 / Little River / The mainstem waters of Little River from its mouth on the New River upstream to the Little River Reservoir Dam (NE56).	4A	Escherichia coli (E. coli)	2010	L	0.49
VAW-N21R_LRV03A00 / Little River / Mainstem Little River from the backwaters of Little River Reservoir upstream to the end of the designated PWS section from the Radford City intake (NE56).	4A	Escherichia coli (E. coli)	2012	L	0.69
VAW-N21R_LRV04A00 / Little River / Mainstem Little River from the PWS designated end upstream to the mouth of Meadow Creek (NE56).	4A	Escherichia coli (E. coli)	2012	L	0.70
VAW-N21R_LRV05A00 / Little River / The Little River mainstem waters from the mouth of Meadow Creek upstream to the mouth of Big Indian Creek (NE55).	4A	Escherichia coli (E. coli)	2012	L	12.33
VAW-N21R_LRV06A00 / Little River / The Little River mainstem from the mouth of Big Indian Creek upstream to the WQS designated natural trout water section (NE53).	4A	Escherichia coli (E. coli)	2014	L	8.37
VAW-N21R_LRV07A00 / Little River / Little River mainstem from the WQS designated natural trout waters upstream to the mouth of the West Fork of Little River (NE52).	4A	Escherichia coli (E. coli)	2006	L	3.70

Little River (Lower)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli (E. coli) - Total Impaired Size by Water Type:		**60.44**	**30.81**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N21R_LRV06A04 / Little River / Little River from the Brush	4A	Fecal Coliform	2004	L	8.79

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

Creek mouth downstream to the confluence of Sidney Creek (NE53).

VAW-N21R_LRV06A14 / Little River / Little River from the end of Rt. 706 downstream to the confluence of Brush Creek (NE52).	4A	Fecal Coliform	2004	L	4.62

Little River (Lower)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			**13.41**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N21R-02-BAC** **Meadow Creek**

Cause Location: The Meadow Creek mainstem from the Mill Creek confluence downstream to the Meadow Creek mouth on Little River (Radford South Quad).

City / County: Montgomery Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli (E. coli) / 4A

The Little River Bacteria (Fed ID: 41519) TMDL Study is U.S. EPA approved on 3/14/2012 and State Water Control Board (SWCB) approved 3/25/2013.
Fecal coliform (FC) excursions of the former 1000 cfu/100 ml instantaneous criterion found in 2002 results in the initial 303(d) Listing of these waters for 4.49 miles. Exceedances are found in three of four observations and one geometric mean calculation exceedance is recorded in excess of the former 2002 criterion of 200 cfu/100 ml. Additional sample collections within the 2004 IR data window also produce exceedances of the former 400 cfu/100 ml instantaneous criterion in seven of 12 observations with one geometric mean excursion of the former criterion. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

9-MDW004.62- There are no new data. The 2014, 2012 and 2010 data windows produce six exceeding values from 12 observations of the escherichia coli (E.coli) 235 cfu/100 ml instantaneous criterion. Values in excess of the criterion range from 280 to greater than 2000 cfu/100 ml. The 2006 IR finds FC exceedances of the former WQS 400 cfu/100 ml instantaneous criterion in six of 11 observations. The range of exceeding values is from 700 to greater than 8000 cfu/100 ml. FC exceedances and total observations within the 2008 data window are the same.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N21R_MDW01A00 / Meadow Creek / The Meadow Creek mainstem from its confluence with Little River upstream to the mouth of Mill Creek on Meadow Creek (NE56).	4A	Escherichia coli (E. coli)	2010	L	4.64

Meadow Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			**4.64**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N21R-03-BAC** **Mill Creek, Poplar Branch, Mill Creek UTs (XDE & XDF)**

Cause Location: The upper limit begins at the headwaters of Mill Creek on the Riner Quad and extends downstream to the Mill Creek confluence with Meadow Creek at the Rt. 600 Bridge on the Radford South Quad (7.04 miles). This impairment also includes Poplar Branch and its tributaries form its mouth on Mill Creek to its headwaters as well as to unnamed tributaries to Mill Creek (XDE & XDF).

City / County: Montgomery Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli (E. coli) / 4A Fecal Coliform / 4A

The Mill Creek Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 6/05/2002 [Fed ID 9453 / 19986] and State Water Control Board (SWCB) approved 6/17/2004 (formerly VAW-N21R-03). And the Little River Bacteria (Fed ID: 41519) TMDL Study is U.S. EPA approved on 3/14/2012 and SWCB approved 3/25/2013. The Mill Creek Bacteria Implementation Plan (IP) received SWCB approval on 6/27/2007; Little River 3/25/2013. The 1996 / 2002 / 2004 impaired waters now extend to the headwaters of Mill Creek (7.60 miles). 2002 tributary additions include Poplar Branch and two unnamed tributaries. The waters are impaired for a total of 15.92 miles.

The waters are originally 303(d) Listed based on the former fecal coliform (FC) WQS instantaneous criterion of 1000 cfu/100 ml and 200 geometric mean. The 2004 Integrated Report (IR) records exceedances of both the former FC 400 cfu/100 ml instantaneous criterion and geometric mean criterion of 200 cfu/100 ml. Listed below are the monitored sites showing fecal coliform instantaneous excursions / with total sample collections; (maximum) and geometric mean calculation exceedances / with total calculations where applicable. Instantaneous Escherichia coli (E. coli) single observations from the 2008 Integrated Report are listed next (value). Each exceed the WQS instantaneous criterion of 235 cfu/100 ml. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

9-MLC005.44- There are no new data since the 2014 data window. Fourteen of 24 samples exceed the Escherichia coli (E.coli) instantaneous water quality standard of 235 cfu/100 ml. In 2014, 18 of 36 total observations exceed the instantaneous criterion. Those values in excess of the 235 cfu/100 ml instantaneous criterion range from 250 to greater than 2000 cfu/100 ml. The 2012 data window produces 11 of 24 escherichia coli (E.coli) excursions of the 235 cfu/100 ml instantaneous criterion. The exceeding values range from 280 to 600 cfu/100 ml. E.coli exceeds the 235 cfu/100 ml instantaneous criterion in four of 12 samples in 2010. The exceeding values range from 250 to 580 cfu/100 ml.

9-MLC002.59 (Rt. 669 Bridge)- There are no new data since the 2014 data window. E.coli exceedances of the 235 cfu/100 ml instantaneous criterion are found in 23 of 36 observations in 2014 and sixteen of 24 observations in 2016 (there are no new observations in the 2016 data window). Values in excess of the instantaneous criterion range from 280 to greater 2000 cfu/100 ml. The 2012 assessment reports 14 of 24 E.coli samples exceeding the 235 cfu/100 ml instantaneous criterion ranging from 280 to greater than 2000 cfu/100 ml. Seven of 12 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion in 2010. Values in excess range from 580 to greater than 2000 cfu/100 ml.

9-MLC001.53 (Rt. 693, Childress)- There are no new data since the 2014 data window. Fourteen of 36 escherichia coli (E.coli) observations exceed the 235 cfu/100 ml instantaneous criterion in 2014. Exceedances range from 250 to greater than 2000 cfu/100 ml. 2012 E.coli excursions of the 235 cfu/10 ml instantaneous criterion are found in eight of 24 samples. Exceeding values range from 250 to 1100 cfu/100 ml. 2010 E.coli excursions are found in three of 12 samples. Exceeding values range from 300 to 1100 cfu/100 ml.

Data below reflect the 2004, 2006 and 2008 IR data windows as there were no additional data beyond the 2006 IR in the 2008 assessment. Two ambient fixed sites 9-MLC005.44 and 9-MLC001.53 are included with the non-fixed sites below.

2004 IR results:
Mill Creek
9-MLC000.17 (Rt. 600 Bridge) - 3/5; (3900); 1/1 geomean; E.coli- 1/1 (800).
9-MLC001.31 (Rt. 693 Bridge) - 3/5; (2300); 1/1 geomean; E.coli- 1/1 (800) .
9-MLC001.53 (Rt. 693, Childress) - 3/6; (2300).
9-MLC002.74 (Private Road off Rt. 616) - 4/5; (>8000); 1/1 geomean; E.coli- 1/1 (800).
9-MLC005.44 (Rt. 8 Bridge-above Riner STP)- 18/25; (2500); E.coli- 1/1 (800).
9-MLC006.00 (Private road Rt. 616)- 2/5; (>8000); 0/1 geomean; E.coli- 1/1 (>800).

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

Poplar Branch
9-PPL000.01 (Private Road at mouth)- 1/1; (>8000).
9-PPL001.27 (Rt. 616 Bridge)- 2/2 (2800).

Mill Creek Unnamed Tributaries
9-XDE000.95 (Rt. 678 Bridge)- 4/5; (>8000); 1/1 geomean; E.coli- 1/1 (>800).
9-XDF000.11 (Private road Rt. 669)- 4/5;(2600); 1/1 geomean; E.coli- 1/1 (>800).

2006 IR results for 2006 stations within the data window:
Mill Creek
9-MLC005.44- 2006 FC exceeds the instantaneous criterion in 10 of 15 observations. Exceeding values range from 600 to 2000 cfu/100 ml. 2008 FC exceeds in eight of 11 samples.
9-MLC002.74- 2006 FC exceeds the WQS 400 cfu/100 ml instantaneous criterion in 10 of 12 observations. The maximum exceedance is greater than 8000 and the minimum is 500 cfu/100 ml. 2008 FC exceeds in nine of 11 observations.
9-MLC001.53- 2006 FC excursions are found in five of eight samples with a maximum of 2300 cfu/100 ml. 2008 five of eight FC samples exceed.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N21R_MLC01A00 / Mill Creek / Mill Creek mainstem waters from its mouth on Meadow Creek upstream to the Montgomery County PSA Riner STP outfall (NE56).	4A	Escherichia coli (E. coli)	2010	L	5.49
VAW-N21R_MLC02A00 / Mill Creek / Mill Creek mainstem waters from the Montgomery County PSA Riner STP outfall upstream to its headwaters (NE56).	4A	Escherichia coli (E. coli)	2010	L	2.11

Mill Creek, Poplar Branch, Mill Creek UTs (XDE & XDF)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			**7.60**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N21R_PPL01A02 / Poplar Branch & Tributaries / Poplar Branch mainstem and tributaries from its confluence with Mill Creek upstream to its headwaters (NE56).	4A	Fecal Coliform	2002	L	4.62
VAW-N21R_XDE01A02 / Mill Creek, UT (XDE) / An unnamed tributary (XDE) to Mill Creek from its mouth upstream. The stream is located in the headwaters of Mill Creek flowing to VAW-N21R_MLC02A00 (NE56).	4A	Fecal Coliform	2002	L	1.75
VAW-N21R_XDF01A02 / Mill Creek, UT (XDF) / An unnamed tributary (XDF) to Mill Creek from its mouth upstream. The stream is located in the headwaters of Mill Creek flowing to VAW-N21R_MLC01A00 (NE56).	4A	Fecal Coliform	2002	L	1.95

Mill Creek, Poplar Branch, Mill Creek UTs (XDE & XDF)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			**8.32**

New River Basin

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N21R-05-BAC** **Brush Creek**

Cause Location: Brush Creek from the first bridge on Route 617 south of the junction of Routes 617 and 601 downstream to the Brush Creek mouth on Little River.

City / County: Montgomery Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli (E. coli) / 4A

The Little River Bacteria (Fed ID: 41519) TMDL Study is U.S. EPA approved on 3/14/2012 and State Water Control Board (SWCB) approved 3/25/2013.
The 2004 Recreational Use impairment continues for 5.94 miles originally due to fecal coliform (FC) bacteria exceedances of the former instantaneous criterion of 400 cfu/100 ml. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

9-BSH000.05 (Rt. 617 Bridge) Four of 12 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion within the 2018 data window. Excursions range from 473 to greater than 1100 cfu/100 ml. The 2012 Integrated Report (IR) found six of 11 escherichia coli (E.coli) observations exceed the 235 cfu/100 ml instantaneous criterion. Excessive values range from 250 to greater than 2000 cfu/100 ml. These waters were initially Listed for fecal coliform (FC) in 2004 with three of eight FC samples exceeding the former WQS instantaneous criterion of 400 cfu/10 ml. The 2010 data window finds two of two samples exceeding the former instantaneous criterion at 800 and 1100 cfu/100 ml. The 2004, 2006 and 2008 data windows find five of 10 FC samples exceeding the former instantaneous criterion. The maximum exceedance range is from 700 to 1300 cfu/100 ml. There were no E.coli data to assess at that time.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N21R_BSH01A04 / Brush Creek / Brush Creek from the first bridge on Route 617 south of the junction of Routes 617 and 601 downstream to the Brush Creek mouth on Little River (NE52).	4A	Escherichia coli (E. coli)	2012	L	5.94

Brush Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			**5.94**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N21R-06-BAC** **Laurel Creek**

Cause Location: Laurel Creek mainstem from its headwaters NW of the Routes 608 and 673 intersection downstream to its confluence with Little River.

City / County: Floyd Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli (E. coli) / 4A

The Little River Bacteria (Fed ID: 41519) TMDL Study is U.S. EPA approved on 3/14/2012 and State Water Control Board (SWCB) approved 3/25/2013.

Fecal coliform (FC) bacteria exceedances cause this initial 2004 303(d) Listed water to not support the Recreational Use for 3.44 miles. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

9-LLL000.05- There are no additional data beyond the 2012 Integrated Report (IR) where five of 12 escherichia coli (E.coli) samples exceed the 235 cfu/100 ml instantaneous criterion. The range of exceeding values is 380 to 1200 cfu/10 ml. FC data within the 2010 data window find one of two samples in excess of the former criterion. The single exceedance is 1000 cfu/100 ml. Both the 2006 and 2008 Integrated Reports (IR) find FC exceeds the former WQS 400 cfu/100 ml instantaneous criterion in five of 10 samples. The exceedances range from 600 to 2800 cfu/100 ml. FC data within the 2010 data window find one of two samples in excess of the former criterion. The single exceedance is 1000 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N21R_LLL01A04 / Laurel Creek / Laurel Creek from its headwaters (Class VI) NW of Rts. 608 and 673 intersection downstream to its confluence with Little River (NE52).	4A	Escherichia coli (E. coli)	2012	L	3.44

Laurel Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			**3.44**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N21R-07-BAC** **Big Indian Creek**

Cause Location: Big Indian Creek from approximately 0.5 miles upstream of the West Fork Big Indian Creek mouth downstream to the Big Indian Creek confluence with Little River.

City / County: Floyd Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli (E. coli) / 4A

The Little River Bacteria (Fed ID: 41519) TMDL Study is U.S. EPA approved on 3/14/2012 and State Water Control Board (SWCB) approved 3/25/2013. The 2010 Integrated Report initially 303(d) Lists these waters.

9-BIC000.14 (Rt. 787 Bridge)- There is no additional bacteria data collected within the 2018 or 2016 data windows. 2014 data window reveals 10 of 24 escherichia coli (E.coli) observations in excess of the 235 cfu/100 ml instantaneous criterion. Excursions range from 300 to 950 cfu/100 ml. There are no additional data within the 2012 data window. The 2010 initial Listing is based on E.coli exceedances from four of 12 samples in excess of the instantaneous criterion with excursions ranging from 350 to 950 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N21R_BIC01A02 / Big Indian Creek / Big Indian Creek mainstem from approximately 0.5 miles upstream of the West Fork Big Indian Creek mouth downstream to the Big Indian Creek confluence with Little River (NE54).	4A	Escherichia coli (E. coli)	2010	L	7.83

Big Indian Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			**7.83**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N21R-07-TEMP** **Big Indian Creek**

Cause Location: Big Indian Creek from approximately 0.5 miles upstream of the West Fork Big Indian Creek mouth downstream to the Big Indian Creek confluence with Little River.

City / County: Floyd Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature / 4A

The Little River Temperature (Fed ID: 41518) TMDL Study is U.S. EPA approved on 3/14/2012 and State Water Control Board (SWCB) approved on 3/25/2013. These waters were initially 303(d) Listed with the 2004 assessment and subsequently delisted with the 2010 assessment. The waters return to an impaired status with the 2014 assessment. Big Indian Creek is addressed by the Little River Temperature TMDL and is category 4A.

9-BIC000.14- (Rt. 787 Bridge, Indian Valley Rd.) No new data was collected within the 2018 data window. The 2016 data windows finds no new temperature exceedances. The 2014 data window records three of 24 temperature measurements in excess of the Class V stockable trout water criterion of 21°C. Exceedances occur on 7/18/2007 at 21.7°C; 7/21/2011 at 24.1°C and 8/29/2012 at 21.6°C. The 2012 data window reveals one exceeding value at 21.7°C on 7/18/2007 from 12 measurements with no additional data. The waters were delisted based on data within the 2010 window where one exceedance (7/18/2007) is recorded from 15 measurements. The temperature original 2004 303(d) Listing continued through the 2008 Cycle. 2006 and 2008 IRs record two of 11 exceedances each. The excursions are 23.9 °C on 7/11/01 and 23.2 °C on 7/10/02 during some of the driest years on record. The original 303(d) Listing in 2004 is based on two of eight temperature measurements exceeding the 21°C criterion as recorded for 2006 and 2008 data windows.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N21R_BIC01A02 / Big Indian Creek / Big Indian Creek mainstem from approximately 0.5 miles upstream of the West Fork Big Indian Creek mouth downstream to the Big Indian Creek confluence with Little River (NE54).	4A	Temperature	2004	L	7.83

Big Indian Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Temperature - Total Impaired Size by Water Type:			**7.83**

Sources:

Natural Sources

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N21R-08-BAC** **Beaver Creek**

Cause Location: Beaver Creek from its mouth on Little River to its headwaters.

City / County: Floyd Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli (E. coli) / 4A

The Little River Bacteria (Fed ID: 41519) TMDL Study is U.S. EPA approved on 3/14/2012 and State Water Control Board (SWCB) approved 3/25/2013. The 2020 Integrated Report initially 303(d) Lists these waters. Beaver Creek is Nested in the aforementioned TMDL Study.

9-BVR001.84 (Rt. 705 Bridge, Floyd Co.) - The 2020 data window finds seven of 12 Escherichia coli (E.coli) samples in exceedance of the 235 cfu/100 ml instantaneous criterion. The minimum excursion was 327 cfu/100 ml (9/25/18) and maximum 2,481 cfu/100 ml (6/21/18).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N21R_BVR01A20 / Beaver Creek / Beaver Creek from its mouth on Little River to its headwaters (NE52).	4A	Escherichia coli (E. coli)	2020	L	7.11

Beaver Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			**7.11**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wastes from Pets
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N21R-08-BEN** **Beaver Creek**

Cause Location: Beaver Creek from its mouth on Little River to its headwaters.

City / County: Floyd Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic Macroinvertebrates Bioassessments / 4A

The Little River Sediment (Fed ID: 41517) TMDL Study is U.S. EPA approved on 3/14/2012 and State Water Control Board (SWCB) approved on 3/25/2013. These waters are initially 303(d) Listed with the 2020 assessment. Beaver Creek is nested in the Little River Sediment TMDL and is category 4A.

9-BVR001.70 (Off Rt. 705 / Beaver Cr. Rd.) - Bio 'IM' from two 2018 VSCI Scores of 48.3 (S) and 58.3 (F). This station was surveyed as part of the Probabilistic monitoring program in 2018. The benthic macroinvertebrate community had good diversity but was comprised of an even mix of both pollution tolerant and sensitive taxa.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N21R_BVR01A20 / Beaver Creek / Beaver Creek from its mouth on Little River to its headwaters (NE52).	4A	Benthic Macroinvertebrates Bioassessments	2020	L	7.11

Beaver Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			**7.11**

Sources:

Erosion from Derelict Land (Barren Land)	Livestock (Grazing or Feeding Operations)	Loss of Riparian Habitat	Non-Point Source
Sediment Resuspension (Clean Sediment)	Streambank Modifications/Destabilization		

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N21R-08-TEMP** **Beaver Creek**

Cause Location: Beaver Creek from its mouth on Little River to its headwaters.

City / County: Floyd Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature / 4A

The Little River Temperature (Fed ID: 41518) TMDL Study is U.S. EPA approved on 3/14/2012 and State Water Control Board (SWCB) approved on 3/25/2013. These waters are initially 303(d) Listed with the 2020 assessment and are nested in the Little River Temperature TMDL (Category 4A).

9-BVR001.84 (Rt. 705 Bridge, Floyd Co.) - The 2020 data window finds three of 12 temperature measurements in exceedance of the 20 C Class VI Natural Trout Waters Criteria. Excursions are: 21 C (6/21/18), 21 C (7/23/18), 22 C (8/13/18).

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N21R_BVR01A20 / Beaver Creek / Beaver Creek from its mouth on Little River to its headwaters (NE52).	4A	Temperature	2020	L	7.11

Beaver Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature - Total Impaired Size by Water Type:			**7.11**

Sources:

Loss of Riparian Habitat	Streambank Modifications/Destabilization

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N22R-02-BAC** **Stroubles Creek**

Cause Location: The upstream end is at the Duck Pond dam on the southwest end of the VPI&SU campus on the Blacksburg Quad. The downstream end is at the Slate Branch mouth on Stroubles Creek.

City / County: Montgomery Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli (E. coli) / 5A

Fecal coliform (FC) bacteria exceedances of the former 1000 cfu/100 ml WQS instantaneous criterion in 2002 cause impairment of the Recreational Use. Three of 23 observations exceed the former criterion at station 9-STE002.41 Rt. 705 Bridge (Coal Hollow Road). The 2004 IR at 9-STE002.41 records four exceedances from 35 samples in excess of the current 400 cfu/100 ml WQS instantaneous criterion. Escherichia coli (E.coli) bacteria replaced fecal coliform (FC) in 2006 as the indicator as required by Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. 2008 results find E.coli exceedances at 9-STE002.41 are three of 31 samples and resulted in 2.11 miles delisted with the 2008 IR. This 2.11 mile delisted portion (partial - length) returned with the 2010 303(d) Listing.

9-STE002.41- (Rt. 705 Bridge- Coal Hollow Road) Nine of 36 excursions are reported during the 2020 data window. The 2018 and 2016 data windows find eleven of 36 escherichia coli (E.coli) samples that exceed the 235 cfu/100 ml instantaneous criterion. Twelve of 36 samples exceeded that criterion in 2014. Values in excess of the instantaneous criterion range from 250 to greater than 2000 cfu/100 ml within the 2014 and 2016 data windows. The 2012 data window finds eight of 36 observations exceeding the 235 cfu/100 ml instantaneous criterion. Exceeding values range from 280 to greater than 2000 cfu/100 ml. 2010 E.coli samples find eight exceed the 235 cfu/100 ml instantaneous criterion from a total of 32 samples with the same range of exceedance.

9-STE007.29 (Rt. 657 Bridge below old B'Burg STP) E.coli exceeds in seven of 11 during the 2020 data window. There is no new data within the 2016 data window. Escherichia coli (E. coli) samples find eight exceed the 235 cfu/100 ml instantaneous criterion from a total of 24 samples. Exceeding values range from 280 to greater than 2000 cfu/100 ml within the 2014 data window. The 2012 IR reports eight E.coli samples exceed the instantaneous criterion from a total of 33. Exceeding values range from 280 to greater than 2000 cfu/100 ml. 2010 results find eight exceed from a total of 32 samples with the same range of exceedance as 2012. 2008 E.coli results exceed in five of 25 samples. The 2008 exceedance range is from 300 to greater than 2000 cfu/100 ml. 2006 E.coli samples reveal five exceed the instantaneous criterion from a total of 16. Exceeding values range from 490 to greater than 5000 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N22R_STE03A00 / Stroubles Creek / These mainstem waters extend from the Slate Branch mouth on Stroubles Creek upstream to the mouth of Walls Branch (NE59).	5A	Escherichia coli (E. coli)	2010	L	2.11
VAW-N22R_STE04A00 / Stroubles Creek / These mainstem waters extend from the Walls Branch mouth upstream to the Duck Pond located on the VPI&SU Campus (NE59).	5A	Escherichia coli (E. coli)	2006	L	5.08

Stroubles Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			**7.19**

Sources:

Discharges from Municipal Separate Storm Sewer Systems (MS4)	Livestock (Grazing or Feeding Operations)	Municipal (Urbanized High Density Area)	Unspecified Domestic Waste
Wastes from Pets	Wet Weather Discharges (Non-Point Source)	Wildlife Other than Waterfowl	

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N22R-02-BEN** **Stroubles Creek**

Cause Location: These mainstem waters extend from the Walls Branch mouth upstream to the Duck Pond located on the VPI&SU Campus.

City / County: Montgomery Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic Macroinvertebrates Bioassessments / 4A

The Stroubles Creek General Standard (Benthic- Sediment) Total Maximum Daily Load (TMDL) is U.S. EPA approved on 1/28/2004 [Fed ID: 21904]. The SWCB approved the Study on 6/17/2004. The Benthic (Sediment) Implementation Plan (IP) is SWCB approved (9/27/2006) (formerly VAW-N22R-02). The 1996 original 303(d) Listed waters remain impaired for contravention of the General Standard (Benthic).

9-STE007.29 - (Rt. 657 Bridge below old Blacksburg STP) Bio 'IM' from six VSCI scores (2015-17) averaging 57.9. The 2018 data window includes six VSCI scores averaging 54.6 (2012, 2015-2016). The Spring 2016 score indicated improvement from Spring 2015 and the Fall 2016 score maintained a Non-Impaired status. While overall the VSCI scores indicate an impaired community, the scores improved during this assessment period. The 2014 assessment found nine Virginia Stream Condition Index (VSCI) surveys (2007-2010 & 2012) are 'IM' with an average score of 46.82. Impairment is found from nine surveys (2006 - 2010) with an average score of 46.82 in 2012. The 2010 assessment found impairment from seven VSCI surveys (2003 & 2006 - 2008) with an average score of 45.6. An average score of 45.6 is also found in 2008 from six VSCI surveys (2001 - 2003 & 2006).

The moderately pollution tolerant caddisfly family Hydropsychidae and fly family Chironomidae were the second most common macroinvertebrates during these surveys. This community indicates the benthic community is exposed to moderate level of pollution, possibly a nutrient source that provides the Hydropsychidae the opportunity to be second most dominant. Thus, this stream reach shows evidence of year long pollution. Habitat condition at this station is suboptimal, impacted by sediment and poor riparian vegetation zones. The mostly open canopy allows for increased water temperatures and primary production resulting in large mats of algae and bacteria on the stream substrate during the summer and fall.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N22R_STE04A00 / Stroubles Creek / These mainstem waters extend from the Walls Branch mouth upstream to the Duck Pond located on the VPI&SU Campus (NE59).	4A	Benthic Macroinvertebrates Bioassessments	1996	L	5.08

Stroubles Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			**5.08**

Sources:

- Discharges from Municipal Separate Storm Sewer Systems (MS4)
- Livestock (Grazing or Feeding Operations)
- Municipal (Urbanized High Density Area)
- Sediment Resuspension (Clean Sediment)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N22R-03-BAC** **Back Creek**

Cause Location: The waters extend from 0.70 miles below the Rt. 636 Bridge crossing downstream to Back Creek's mouth on the New River.

City / County: Pulaski Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli (E. coli) / 4A

The 1996 303(d) Listed Back Creek Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved on 6/21/2004 [Fed ID 24564] and SWCB approval on 12/02/2004. The Bacteria/Benthic Implementation Plan (IP) is SWCB approved 7/31/2008 (formerly VAW-N22R-03). 1996 fecal coliform (FC) exceedances are found in seven of seven observations at 9-BCK009.47; 2002 records 17 of 23 samples exceeding the former fecal coliform bacteria instantaneous criterion of 1000 cfu/100 ml. The 2004 Integrated Report (IR) records 19 of 21 samples exceeding the former WQS fecal coliform bacteria instantaneous criterion of 400 cfu/100 ml at 9-BCK009.47. The excursions range from 900 to >8000 cfu/100 ml. Escherichia coli (E.coli) bacteria replaced fecal coliform in 2006 as the indicator as required by Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters]. The waters remain impaired for 17.53 miles with the 2014 and 2016 Assessments.

9-BCK015.98 (Rt. 636 Bridge, Black Hollow Road) Nine of 11 excursions reported at 9-BCK015.88 during the 2020 data window. Six of seven E.coli samples exceed the 235 cfu/100 ml instantaneous criterion within the 2018 data window. Prior to 2018, there are no additional data beyond the 2012 assessment where escherichia coli (E.coli) samples exceeded the WQS instantaneous criterion of 235 cfu/100 ml in 24 of 36 total samples. Values in excess of the criterion range from 300 to greater than 2000 cfu/100 ml. 2010 E.coli samples exceed the instantaneous criterion in 25 of 35 samples. Values in excess of the criterion range from 300 to greater than 2000 cfu/100 ml. The 2008 assessment finds E.coli exceeds the instantaneous criterion in 19 of 26 samples. Values in excess of the criterion range from 250 to greater than 2000 cfu/100 ml. In 2006 E.coli samples exceed the instantaneous criterion in 11 of 14 samples with the same exceedance range.

9-BCK009.47 (Rt. 100 Bridge) There are no additional data beyond the 2012 Integrated Report (IR) where E.coli exceeds the 235 cfu/100 ml criterion in 34 of 36 samples. The range of exceedance is from 320 to greater than 2000 cfu/100 ml. 2010 E. coli exceedances of the instantaneous criterion are found in 39 of 42 samples. The range of exceeding values is from 310 cfu/100 ml to 18,000. E.coli exceeds the instantaneous criterion in 32 of 35 samples in 2008. The range of exceeding values is from 310 cfu/100 ml to 18,000. Two of two geometric mean calculations exceed the 126 cfu/100 ml criterion based on the former WQS frequency of collection. The 2006 assessment found E.coli exceeds the instantaneous criterion in 20 of 21 samples with the same exceedance range.

9-BCK000.74 (Rt. 600 Bridge) There are no additional data beyond the 2012 IR where 20 of 36 E.coli exceedances occur ranging from 250 to greater than 2000 cfu/100 ml. E.coli exceedances are found in 29 of 43 samples within the 2010 data window. Exceedances range from 250 cfu/100 ml to 9000. The 2008 assessment finds E.coli exceeds the instantaneous criterion in 23 of 36 samples with exceedances ranging from 290 cfu/100 ml to greater than 2000. Three of three geometric mean calculations exceed the 126 cfu/100 ml criterion based on the former WQS frequency of collection. The exceedance range in 2006 is the same as 2008 where E.coli exceeds in 15 of 22 samples.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N22R_BCK01A00 / Back Creek / Back Creek mainstem waters from the mouth of Shuffle Branch downstream to Back Creek's mouth on the New River (NE61).	4A	Escherichia coli (E. coli)	2006	L	5.76
VAW-N22R_BCK02A08 / Back Creek / Back Creek from 0.70 miles downstream of the Rt. 636 crossing on downstream to the confluence of Shuffle Branch (NE61).	4A	Escherichia coli (E. coli)	2006	L	11.77

Back Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			**17.53**

New River Basin

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wastes from Pets
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N22R-03-BEN** **Back Creek**

Cause Location: The waters extend from 0.70 miles below the Rt. 636 Bridge crossing downstream to Back Creek's mouth on the New River.

City / County: Pulaski Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic Macroinvertebrates Bioassessments / 4A

The 2002 303(d) Listed Back Creek General Standard (Benthic- Sediment) Total Maximum Daily Load (TMDL) is U.S. EPA approved on 6/21/2004 [Fed ID 24565]. The SWCB approved the Study on 12/02/2004. The Benthic/Bacteria Implementation Plan (IP) is SWCB approved 7/31/2008.

The TMDL identifies sediment as the primary stressor for the aquatic life use (benthic) impairment. The 2002 severe RBP II score of 37.50 produces the initial 17.53 mile listing of the benthic impairment. The 2008 assessment finds via station 9-BCK000.74 that a single Virginia Stream Condition Index (VSCI) score indicates full support. A potential delisting could occur for the lower end of Back Creek should additional surveys produce scores at 60 or above in succeeding assessment cycles.

9-BCK015.98- (Rt. 636 Bridge, Black Hollow Road) The 2018 data window finds Bio 'IM' from six VSCI scores. The addition of 2016 spring and fall data results in a VSCI averaging 44.7. Bio 'IM' Four Virginia Stream Condition Index (VSCI) surveys (2011-2012) within the 2016 and 2014 data windows produce an average score of 42.9. And two 2006 VSCI surveys with an average score of 42.8 are reported within previous Integrated Reports (IR). The habitat surveys indicate the stream is impacted by sediment deposition, riparian vegetation removal, channel alteration (straightening of the stream), and destabilized stream banks. Additionally, the water in Back Creek is often turbid from cattle disturbance of stream banks and in-stream sediments. These impacts result in stream substrate and water that limits colonization of benthic macroinvertebrates and fish.

9-BCK009.47 (Rt. 100 Bridge) Bio- 'IM'; The 2012 Integrated Report (IR) reveals four VSCI surveys (2006 & 2010) with an average score of 41.0 The remaining two surveys within the 2014 and 2016 data windows produce an average score of 32.6. The benthic community is dominated by taxa that are tolerant of nutrient/organic enrichment. Late summer of 2006 a fish kill occurred that was the probable cause for the decline in the benthic community for the Fall sample. The community recovered between Fall of 2006 and Spring of 2010, however a decline is noted in the Fall 2010 score. NPS pollution from agricultural sources upstream from Rt. 100 has impacted the stream. Habitat at this site has been impacted by the agricultural land use in the watershed, resulting in sedimentation and excessive algal growth on the substrate. The 2008 and 2010 assessments report three VSCI surveys (2003 & 2006) with an average score of 41.0 as well.

9-BCK000.74- (Rt. 600 Bridge) Bio- 'FS' There are no additional surveys beyond the 2006 IR. One fall 2003 VSCI survey scoring 67.2. This AU would be a candidate for delisting should additional surveys find scores above 60. The reach appears to have habitat that would suit a diverse benthic community and was surveyed to determine if it was a recovery zone from upstream impairments. However, this station had a low abundance of sensitive EPTs. The high dominance of Elmidae (53.3%) is possibly due to slight nutrient enrichment and the subsequent abundance of periphyton, which is the predominant food of riffle beetles. This station is slightly impacted by sediment deposition. The banks and riparian zones are impacted by altered hydrology and human activities. However, the substrate size, frequency of riffles, flow, velocity, and channel gradient have a positive effect on the benthic community.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N22R_BCK01A00 / Back Creek / Back Creek mainstem waters from the mouth of Shuffle Branch downstream to Back Creek's mouth on the New River (NE61).	4A	Benthic Macroinvertebrates Bioassessments	2002	L	5.76
VAW-N22R_BCK02A08 / Back Creek / Back Creek from 0.70 miles downstream of the Rt. 636 crossing on downstream to the confluence of Shuffle Branch (NE61).	4A	Benthic Macroinvertebrates Bioassessments	2002	L	11.77

Back Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			**17.53**

New River Basin

Sources:

Channelization	Loss of Riparian Habitat	Sediment Resuspension (Clean Sediment)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N22R-04-BAC** **Toms Creek**

Cause Location: Toms Creek mainstem waters just below the Poverty Creek confluence upstream to its headwaters.

City / County: Montgomery Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli (E. coli) / 5A

This initial 2014 Listing is a result of bacteria data showing impairment of the Recreational Use. The 2020 data window extends this impairment downstream 5.71 miles due to E.coli data collections at 9-TOM005.32.

9-TOM012.78- (Lower bike path off Deerfield Drive) Three of 12 escherichia coli (E.coli) samples exceed the 235 cfu/100 ml instantaneous criterion within the 2014 data window. Exceeding values range from 275 to 950 cfu/100 ml. Note: Level 2 Citizen data indicates the impairment extends downstream to the Toms Creek confluence with the New River. There was no additional data collected since the 2014 data window.

9-TOM005.32 (Rt. 725 Bridge [Poverty Cr Road]) - E.coli 'IM' from five excursions of the 235 cfu/100 ml instantaneous criterion from 12 samples during the 2020 data window.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N22R_TOM02A00 / Toms Creek / Toms Creek mainstem waters just below the Poverty Creek confluence upstream to the mouth of Big Run. These waters are not within the WQS public water supply (PWS) designation (NE60).	5A	Escherichia coli (E. coli)	2020	L	5.71
VAW-N22R_TOM03A08 / Toms Creek / Toms Creek from the mouth of Big Run upstream to its headwaters (NE60).	5A	Escherichia coli (E. coli)	2014	L	6.13

Toms Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			**11.84**

Sources:

Livestock (Grazing or Feeding Operations)	Municipal (Urbanized High Density Area)	Non-Point Source	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
Unspecified Domestic Waste	Wastes from Pets	Wet Weather Discharges (Non-Point Source)	Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N22R-04-TEMP** **Toms Creek**

Cause Location: Toms Creek mainstem waters from its mouth on the New River upstream to its headwaters.

City / County: Montgomery Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature / 5C

The initial 2008 5.71 mile impairment is extends upstream 6.13 miles (2012) and downstream 4.56 miles (2014) with data provided by the National Committee for the New River (NCNR). The Aquatic Life Use is impaired for a total of 16.40 miles based on the initial 2008 temperature exceedances and 2012 / 2014 Citizen temperature measurements of the Class V 21°C stockable trout water criterion.

9TOM-1-NCNR (Off Glade Rd. at Heritage Park Trail Lv. 3) Seven temperature measurements exceed the Class V 21°C criterion ranging from at 21.5°C to 26.1°C from 32 measurements within the 2016 and 2014 data windows. Excursions occur during the summer months Lv. 3 [IM]. Two temperature measurements exceed the Class V 21°C criterion at 24.5°C on 7/19/2010 and 24.0°C on 8/19/2010 from 10 measurements for 2012.

9-TOM005.32- (Rt. 725 Bridge upstream of Poverty Creek) One temperature exceedance at 22 C (7/13/17). Temp impairment remains due to upstream and downstream impairment. Both the 2010 and 2008 IRs find two temperature measurements exceed the Class V 21°C criterion from 13 observations. Exceedances occur on 8/15/2005 at 24.4°C and 21.4 °C on 8/15/2006. There are no additional data beyond the 2008 Integrated Report (IR).

9TOM-2-NCNR (Poverty Creek Rd. Bridge Lv. 3) The 2016 data window finds three of 11 temperature measurements exceed the Class V 21°C criterion. Excessive values range from 22 to 24.5°C and occur in the summer months. The 2012 Integrated Report (IR) finds three temperature exceedances of the Class V 21°C criterion occur on 6/16/2010 at 22°C; 7/19/2010 at 24.0°C and 8/16/2010 at 24.5°C from 11 measurements for 2012.

9TOM-3-NCNR (Mt. Zion Road Bridge Lv. 3) Only one temperature measurement (full support) reported during the 2020 data window. Seven temperature measurements exceed the Class V 21°C criterion ranging from at 22.0°C to 24.7°C from 33 measurements within the 2016 data window. Excursions occur during the summer months.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N22R_TOM01A00 / Toms Creek / These mainstem waters extend from just below the Poverty Creek confluence downstream to the Toms Creek mouth on the New River. These waters are within the WQS five mile public water supply (PWS) designation (NE60).	5C	Temperature	2014	L	4.56
VAW-N22R_TOM02A00 / Toms Creek / Toms Creek mainstem waters just below the Poverty Creek confluence upstream to the mouth of Big Run. These waters are not within the WQS public water supply (PWS) designation (NE60).	5C	Temperature	2008	L	5.71
VAW-N22R_TOM03A08 / Toms Creek / Toms Creek from the mouth of Big Run upstream to its headwaters (NE60).	5C	Temperature	2012	L	6.13

Toms Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature - Total Impaired Size by Water Type:			**16.40**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N22R-05-BAC** **New River**

Cause Location: New River mainstem from Claytor Dam (NE57) downstream to the confluence with Back Creek (NE62).

City / County: Montgomery Co. Pulaski Co. Radford City

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli (E. coli) / 5A

The initial 2016 303(d) Listing of these waters is a result of escherichia coli (E.Coli) excursions of the 235 cfu/100 ml instantaneous criterion in three of 23 samples. All three exceeding samples were found to have E.Coli concentrations of 250 cfu/100 ml. These waters are not meeting the Recreational Use. The 2020 data window extends this Recreational Use impairment upstream to the confluence of Little River.

9-NEW081.72 (Rt. 11 Bridge at Radford) - The 2020 IR finds five of 42 E.coli samples in exceedance of the 235 cfu/100 ml instantaneous criterion.

9-NEW066.90 (New River at Whitethorne) Nine of 36 E.coli samples exceed during the 2020 data window. The 2018 data window shows six of 24 Escherichia coli (E.coli) exceeds the 235 cfu/100 ml instantaneous criterion. Exceedances range from 241 to 383 cfu/100 ml. The 2016 data window found excursions in three of 23 samples. Exceeding values were all 250 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N18R_NEW01A00 / New River / New River mainstem from the Watershed boundary, Crab Creek mouth, upstream to approximately one mile downstream of the Rt. 11 Bridge; end of the WQS public water supply (PWS) section (NE57).	5A	Escherichia coli (E. coli)	2020	L	3.33
VAW-N18R_NEW02A00 / New River / New River mainstem from approximately one mile downstream of the Rt. 11 Bridge upstream to the Radford City intake (NE57).	5A	Escherichia coli (E. coli)	2020	L	3.72
VAW-N18R_NEW04A00 / New River / New River mainstem waters from the mouth of Little River upstream to Claytor Dam (NE57).	5A	Escherichia coli (E. coli)	2020	L	0.60
VAW-N22R_NEW02A00 / New River / New River mainstem from the Radford Army Arsenal Plant downstream intake near Whitethorne downstream to the confluence of Back Creek (NE62).	5A	Escherichia coli (E. coli)	2016	L	2.86
VAW-N22R_NEW02B14 / New River / New River mainstem from the mouth of Toms Creek downstream to the RAAP downstream intake (NE62).	5A	Escherichia coli (E. coli)	2016	L	0.51
VAW-N22R_NEW03A00 / New River / New River mainstem from the confluence of Stroubles Creek downstream to the mouth of Toms Creek (NE59).	5A	Escherichia coli (E. coli)	2016	L	4.09
VAW-N22R_NEW04A00 / New River / New River mainstem from the Radford Army Arsenal Plant upstream intake/Pepper's Ferry Region POTW outfall downstream to the confluence of Stroubles Creek (NE59).	5A	Escherichia coli (E. coli)	2016	L	2.32
VAW-N22R_NEW05A00 / New River / New River mainstem from the Blacksburg /Christiansburg /VPI Authority intake at Rt. 114 downstream to the Radford Army Arsenal Plant upstream intake / Pepper's Ferry Regional POTW outfall (NE59).	5A	Escherichia coli (E. coli)	2020	L	1.76
VAW-N22R_NEW06A00 / New River / New River mainstem from the Watershed Boundary at the Crab Creek confluence downstream to the Blacksburg /Christiansburg /VPI Authority intake (NE59).	5A	Escherichia coli (E. coli)	2020	L	1.72

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

New River

Recreation

	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			**20.91**

Sources:

- Livestock (Grazing or Feeding Operations)
- Unspecified Domestic Waste
- Wastes from Pets
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N22R-06-BEN** **Unnamed Tributaries XEJ and XEH to Slate Branch**

Cause Location: Unnamed Tributary XEH from its mouth on Slate Branch upstream to its headwaters. And Unnamed Tributary XEJ from its mouth on Unnamed Tributary XEH upstream to its headwaters.

City / County: Montgomery Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic Macroinvertebrates Bioassessments / 5A

The 2008 assessment finds the Aquatic Life Use via the General Standard (Benthic) is impaired for a total of 2.51 miles. Unnamed Tributary to Slate Branch- XEH for 1.68 miles and Unnamed Tributary XEJ to XEH for 0.83 miles. There are no additional data for 9-XEH000.75 and 9-XEJ000.10 beyond the 2008 Integrated Report (IR). 9-XEH000.01 is a new station assessed in 2016.

9-XEH000.75- (Downstream of Villages Development at NRV Mall) There are no additional data beyond the 2008 IR. Bio 'IM' Two 2006 Virginia Stream Condition Index (VSCI) surveys with an average score of 23.1. This station was sampled at the request of the WCRO VWP program with the goal of collecting water quality data prior to new development immediately upstream near the New River Valley Mall complex. A crayfish/macro invertebrate kill in January 2006 impacted the stream with the source occurring somewhere above this station. The most noticeable difference between this site and the reference station is the low abundance of organisms collected in the spring sample compared to the reference site. The abundance increased in the fall and is comparable to the reference site (Falling Branch).

9-XEH000.01 (Near Huckleberry Trail, Downstream of XEJ) - This stream was originally sampled at a location upstream (9-XEH000.75). The 2016 and 2018 data windows find four VSCI scores average 52.0 (2013-2014). The headwaters of Slate Branch are developed with residential and commercial properties as well as Rt. 460 and Peppers Ferry Road. Storm water runoff from these areas may have an impact on water quality at the sampling station which is about one mile downstream of the New River Valley Mall. Habitat scores at this station were relatively good considering the proximity to developed lands upstream and appear favorable for macroinvertebrates. Specific conductance was high at this site during all surveys. Periphyton and algal growth was always thick even during the fall surveys which may be an indication of excessive nutrients.

9-XEJ000.10- (North of NRV Mall) There are no additional data beyond the 2008 IR. Bio 'IM' Two 2006 VSCI surveys with an average score of 23.8. This station was sampled at the request of the WCRO VWP program with the goal of collecting water quality data prior to new development immediately upstream and north of the New River Valley Mall and above the Huckleberry Tail crossing. The main source of impact appears to be recent development and urban land use resulting in altered hydrology, excessive storm water runoff, sediment deposition, bank erosion, and riparian vegetation removal.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N22R_XEH01A08 / Slate Branch, UT (XEH) / Unnamed tributary XEH from its mouth on Slate Branch upstream to its headwaters (NE59).	5A	Benthic Macroinvertebrates Bioassessments	2008	M	1.68
VAW-N22R_XEJ01A08 / Unnamed Trib. XEJ to XEH / Unnamed Tributary XEJ from its mouth on Unnamed Tributary XEH upstream to its headwaters (NE59).	5A	Benthic Macroinvertebrates Bioassessments	2008	M	0.83

Unnamed Tributaries XEJ and XEH to Slate Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			**2.51**

Sources:

Loss of Riparian Habitat	Municipal (Urbanized High Density Area)	Sediment Resuspension (Clean Sediment)	Streambank Modifications/Destabilization

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N23R-01-BAC** **Sinking Creek**

Cause Location: Sinking Creek mainstem waters from just downstream of the Rt. 778 Bridge upstream to the mouth of Gravel Hill Branch.

City / County: Craig Co. Giles Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli (E. coli) / 5A

The initial 21.03 mile 2010 303(d) Listing of these waters is due to bacteria excursions of the WQS instantaneous criterion for escherichia coli (E.coli).

9-SNK012.06 (Rt. 42 Bridge)- One exceedance of the E.Coli instantaneous criterion (235 cfu/100 ml) occurs within the 2016 and 2018 data windows at 600 cfu/100 ml (2013). The 2010 IR found three of 12 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion. The exceedance range is from 250 to greater than 2000 cfu/100 ml.

9-SNK005.38 (Rt. 778 Bridge)- There are no new data beyond the 2014 data window. E.coli excursions of the 235 cfu/100 ml instantaneous criterion occur in four of 23 observations within the 2014 data window. Values in excess of the instantaneous criterion range from 275 to 600 cfu/100 ml. E.coli excursions of the instantaneous criterion occur in two of 11 observations within the 2010 and 2012 data windows. Values in excess of the instantaneous criterion are 480 and 600 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N23R_SNK01B10 / Sinking Creek / Sinking Creek mainstem waters from just downstream of the Rt. 778 Bridge upstream to the mouth of an unnamed tributary near the Rt. 700 crossing (NE65).	5A	Escherichia coli (E. coli)	2010	L	3.03
VAW-N23R_SNK01C14 / Sinking Creek / Sinking Creek from just downstream of the Rt. 700 Bridge upstream to the junction of routes 601 & 604 - 6th Order Boundary (NE65)	5A	Escherichia coli (E. coli)	2010	L	2.74
VAW-N23R_SNK02A00 / Sinking Creek / Sinking Creek from the junction of routes 601 & 604 upstream to the mouth of Gravel Hill Branch- 6th Order Boundary (NE64).	5A	Escherichia coli (E. coli)	2010	L	15.26

Sinking Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			**21.03**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N25R-01-BAC** **Walker Creek**

Cause Location: Walker Creek from the Route 52 crossing downstream to the confluence with Kimberling Creek and Town Creek from the headwaters downstream to the confluence with Crab Orchard Creek.

City / County: Bland Co. Giles Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli (E. coli) / 4A Fecal Coliform / 4A

The AWQM station located at 9-WLK060.32 had a 17% and 9-WLK044.06 has 16% exceedance of the E. coli water quality standard and station 9-TNC000.53 had a 55% exceedance of the E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N25R_TNC01A10 / Town Creek / From headwaters to Crab Orchard confluence at Town of Bland, WQS Section 1, u (NE66).	4A	Escherichia coli (E. coli)	2010	L	4.40
VAS-N25R_WLK04A00 / Walker Creek / Walker Creek mainstem from the Kimberling Creek confluence at the Giles/Bland County line, upstream to the Helveys Mill Creek confluence near Point Pleasant, WQS Section 1k (NE67).	4A	Escherichia coli (E. coli)	2006	L	14.48
VAS-N25R_WLK04A12 / Walker Creek / Walker Creek mainstem from the Crab Orchard Creek confluence, upstream to the Rt. 52 crossing north of Walker Mountain, WQS Section 1k (NE66).	4A	Escherichia coli (E. coli)	2006	L	8.46
VAS-N25R_WLK04B12 / Walker Creek / Walker Creek mainstem from the Helveys Mill Creek confluence, near Point Pleasant, upstream to the Crab Orchard Creek confluence, south of Bland, WQS Section 1k (NE67).	4A	Escherichia coli (E. coli)	2006	L	10.59

Walker Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			**37.93**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N25R_WLK04A00 / Walker Creek / Walker Creek mainstem from the Kimberling Creek confluence at the Giles/Bland County line, upstream to the Helveys Mill Creek confluence near Point Pleasant, WQS Section 1k (NE67).	4A	Fecal Coliform	2006	L	14.48
VAS-N25R_WLK04B12 / Walker Creek / Walker Creek mainstem from the Helveys Mill Creek confluence, near Point Pleasant, upstream to the Crab Orchard Creek confluence, south of Bland, WQS Section 1k (NE67).	4A	Fecal Coliform	2006	L	10.59

Walker Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**25.07**

Sources:

Grazing in Riparian or Shoreline Zones

On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)

Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N26R-01-BAC** **East Wilderness Creek and Nobusiness Creek**

Cause Location: This segment includes the mainstem of Nobusiness Creek from the Kimberling Creek confluence upstream 6.4 miles, East Wilderness Creek from the confluence with Wolfpen Branch upstream 3.2 miles.

City / County: Bland Co. Giles Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli (E. coli) / 4A

AWQM station 9-EWL000.06 had 18% of the samples exceed the E.coli water quality standard. Station 9-NBS000.70 had a 50% exceedance of the E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N26R_EWL01A10 / East Wilderness Creek / A Wolfpen Branch tributary near Shady Grove Church from Wolf Creek Mountain to the north, WQS Section 1 (NE68).	4A	Escherichia coli (E. coli)	2010	L	3.51
VAS-N26R_NBS01B04 / Nobusiness Creek / Nobusiness Creek from Kimberling Creek confluence to upstream of Panther Den Branch in WQS Section 1, DGIF *** (NE69).	4A	Escherichia coli (E. coli)	2010	L	6.72

East Wilderness Creek and Nobusiness Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			**10.23**

Sources:

Grazing in Riparian or Shoreline Zones	Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N26R-03-TEMP** **Nobusiness Creek**

Cause Location: This segment includes from the Kimberling Creek confluence to upstream of Panther Den Branch.

City / County: Bland Co. Giles Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature / 5A

AWQM station 9-NBS000.70 had a 18% exceedance of the WQS for temperature in Class VI waters.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N26R_NBS01B04 / Nobusiness Creek / Nobusiness Creek from Kimberling Creek confluence to upstream of Panther Den Branch in WQS Section 1, DGIF *** (NE69).	5A	Temperature	2018	L	6.72

Nobusiness Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature - Total Impaired Size by Water Type:			**6.72**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N27R-01-BAC** **Little Walker Creek**

Cause Location: Little Walker Creek mainstem from its confluence with Walker Creek upstream to the mouth of Spur Branch.

City / County: Pulaski Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli (E. coli) / 5A

The initial 2004 303(d) Listing of these waters is the result of fecal coliform (FC) bacteria exceedances (two exceeding from 18 observations) causing a 17.48 mile impairment. Escherichia coli (E.coli) replaces fecal coliform bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

9-LWK000.77 (Rt. 100 Bridge) Escherichia coli (E.coli) exceed the 235 cfu/100 ml instantaneous criterion in eight of 34 and five of 22 samples within the 2018 and 2016 data windows, respectively. Exceedance range is 337 to greater than 2000 cfu/100 ml. The 2014 data window found three of 11 samples in exceedance of the instantaneous criterion. Values exceeding the criterion range from 275 to greater than 2000 cfu/100 ml. The 2008 through 2012 assessments find E.coli exceed the instantaneous criterion in five of 12 samples. Values exceeding the criterion range from 320 to 500 cfu/100 ml. Four of nine excursions are reported in 2006 with the range of exceedance from 350 to 500 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N27R_LWK01A00 / Little Walker Creek / Little Walker Creek mainstem from its confluence with Walker Creek upstream to the mouth of Spur Branch (NE72).	5A	Escherichia coli (E. coli)	2006	L	17.48

Little Walker Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			**17.48**

Sources:

- Livestock (Grazing or Feeding Operations)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Unspecified Domestic Waste
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N29R-01-PCB** **New River, Reed Creek, Claytor Lake, Peak Creek, Stony Creek, Walker Creek, And Unknown Tributary XAG.**

Cause Location: The impairment begins at the I-77 bridge crossing the New River and extends downstream to the VA/WVA State Line and includes the tributaries Peak Creek and Reed Creek as described below.

City / County: Giles Co. Montgomery Co. Pulaski Co. Radford City Wythe Co.

Use(s): Fish Consumption Wildlife

Cause(s) / VA Category: PCBs in Fish Tissue / 4A PCBs in Fish Tissue / 5A
Polychlorinated Biphenyls (PCBs) / 5A

The Virginia Department of Health (VDH) issued a fish consumption advisory on August 6, 2001 for polychlorinated biphenyls (PCBs) for the lower portion of the New River (Rt. 114 Bridge downstream to the VA / WVA State Line - 52.0 miles) based on fish tissue collections from Carp. An Advisory extension to Claytor dam was issued 8/06/2003 (11.47 miles) recommends that no carp be consumed in these waters and no more than two meals per month of flathead and channel catfish. The VDH PCB Fish Consumption Advisory was further extended upstream on the New River (13 miles) to the I-77 Bridge to include the lower portions of Peak Creek (4.02 miles), Reed Creek (16.35 miles) and Claytor Lake (4,287 acres) on 12/02/2004. The VDH advises consumption should not exceed two meals per month for carp and smallmouth bass. Stony Creek is a 2010 Integrated Report (IR) addition to the original 2002 303(d) Listing. An unnamed tributary (XAG) is an addition with the 2016 IR. The VDH level of concern is 50 parts per billion (ppb) in fish tissue.

Water column data from 2010 thru 2016 are listed below where excursions of the WQS water column criterion of 640 pg/L are contravened causing an Observed Effect (OE) or 303(d) Listing for 'PCBs in Water Column'. Water column data collection is in support of TMDL development for PCBs in the New River drainage. Sample collections are made in both wet weather (WW) and dry weather (DW) conditions.

2012 & 2014 Fish tissue and water column data follow reporting exceedances of the WQS based 20 ppb fish tissue value (TV) (VDH Lower Level of Concern 50 ppb). And excursions of the WQS water column criterion of 640 pg/L. Fish tissue data are in addition to previous years collections. Fish tissue data are reviewed by the VDH in making an advisory determination. A complete listing of fish tissue collection sites and associated fish tissue data are available at http://www.deq.virginia.gov. A more detailed presentation of the data can also be found using an interactive mapping application at http://www.deq.virginia.gov. The VDH Advisory information is also available via the web at http://www.vdh.virginia.gov.

9-RDC009.00 (Near Rt. 619 at Grahams Forge) 2012 two species analyzed - Carp exceeds WQS TV of 20 ppb (5 fish composite [62.6 - 69.4 cm] at 68.24 ppb. Remaining species analyzed Smallmouth Bass (5 fish composite [21.8 - 26.6 cm] at 3.04 ppb. 2014 two species analyzed - Carp composites exceed WQS TV of 20 ppb (4 fish composite [67.9 - 76.5 cm] at 75.67 ppb and (5 fish composite [64.5 - 69.8] at 85.77. Remaining species analyzed Smallmouth Bass (5 fish composite [23.1 - 30.3 cm] at 2.46 ppb.

9-NEW107.51 (New River near Allisonia) 2014 fish tissue WQS TV of 20 ppb: Three species analyzed - Channel Catfish exceeds WQS TV of 20 ppb; 3 fish composite [61.2 - 69.5 cm] at 23.02 ppb; Smallmouth Bass (3 fish composite [40.1 - 49.6 cm]) at 2.45 ppb; Carp exceeds (5 fish composite [56.5 - 70.4 cm]) at 45.12 ppb; and Carp (5 fish composite [55.3 - 71.3 cm] at 8.79 ppb.

9-NEW098.32 (Rt. 672 Bridge, Lighthouse) 2012 four species analyzed - Channel Catfish exceeds WQS TV of 20 ppb; (2 fish composite [70.5 - 71.5 cm] at 65.15 ppb. Remaining species analyzed Largemouth Bass (5 fish composite [34.5 - 43.1]) at 7.76 ppb; Spotted Bass (5 fish composite [34.2 - 38.2 cm]) at 11.00 ppb; and Carp (3 fish composite [45.8 - 56.5]) at 6.04 ppb.

9-PKC009.53 (Upstream of XAG confluence) 2014 water column DW 197.02 pg/L- 'FS'; WW 799.75 pg/L- 'OE'.

9-XAG000.01 (Mouth of X-Trib XAG near former Allied Site) 2014- Water column PCB WQS criterion of 640 pg/L: DW 1,458.87 pg/L (7/31/2014); WW 1,754.02 pg/L (10/15/2014).

9-XFQ000.77 (Off Pierce Ave. near Calfee Park) 2014 water column PCB WQS criterion of 640 pg/L: DW 194.99 pg/L- 'FS'; WW 686.76 pg/L- 'OE'.

9-PKC007.82 (Route 99 Bridge) 2012 three species analyzed - Stoneroller exceeds WQS criterion of 20 ppb (15 fish comp. [14.3 - 16.0 cm] at 33.18 ppb. Remaining species analyzed Rock Bass (5 fish comp. [16.7 - 18.6 cm]); at 10.49 ppb) and

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Redbreast Sunfish (5 fish comp. [14.3 - 18.1 cm]; at 3.01 ppb).

2013 PCB water column excursions are DW 1,193.64 pg/L; WW 2,436.73 pg/L and 2014 one sample 'FS DW 389.51 pg/L and one excursion of the WQS 640 pg/L criterion at WW 1,252.42 pg/L.

9-PKC004.65 (Rt. 100 Bridge) 2012 four species analyzed. Channel catfish exceeds WQS criterion of 20 ppb (2 fish composite [63.1 - 69.0 cm] at 33.15 ppb. Remaining species analyzed Largemouth Bass (5 fish composite [33.4 - 40.8 cm]; at 2.68 ppb), Carp 2 sizes (4 fish composite [54.6 - 62.0 cm]; at 2.32 ppb) and (4 fish composite [54.6 - 62.0 cm]; at 9.16 ppb) and Smallmouth Bass (3 fish composite [35.3 - 42.6 cm]; at 6.90 ppb).

One 2014 water column sample exceeds the WQS criterion of 640 pg/L at 1,075.73 pg/L.

9-NEW088.86 (New River Claytor Lake at Dam) 2012 six species analyzed - Flathead Catfish exceeds WQS criterion of 20 ppb (2 fish composite [83.0 - 87.5 cm]) at 86.67 ppb. Remaining species analyzed Carp (4 fish composite [56.5 - 67.0 cm] at 2.05 ppb; Channel Catfish (1 fish [58.8 cm]) at 7.43 ppb; Largemouth Bass (5 fish composite [32.5 - 34.5 cm] at 0.36 ppb; Smallmouth Bass (4 fish composite [27.0 - 32.2 cm] at 0.88 ppb; Spotted Bass (3 fish composite [28.8 - 36.8 cm] at 0.00 ppb.

9-NEW085.94 (New River downstream of Claytor Dam) 2012 two species analyzed - Flathead Catfish exceeds WQS criterion of 20 ppb (5 fish composite [57.5 - 70.3 cm]) at 33.74 ppb. Remaining species analyzed Carp (5 fish composite [62.6 - 81.0 cm] at 11.27 ppb.

9-NEW081.72- (Route 11 Bridge - at Radford) 2010 water column PCB WQS criterion of 640 pg/L: DW 320 pg/L - 'FS'; WW exceeds at 4,739- 'OE'. 2011 water column WW 243.70 pg/L - 'FS'. 2013 water column WW exceeds at 647.88 pg/L- 'OE'.

9-NEW079.19 (New River below Radford University) 2012 one species two exceeding composites analyzed - Carp exceeds WQS criterion of 20 ppb (2 fish composite [67.5 - 76.5 cm] at 53.28 ppb and Carp exceeding (2 fish composite [76.8 - 83.6 cm] at 94.85 ppb.

9-NEW066.90 (New River at Whitethorne) 2012 one species analyzed exceeds WQS criterion of 20 ppb Carp (1 fish [72.0 cm] at 125.58 ppb.

9-LWK000.77 (Rt. 100 Bridge) 2011 PCB water column WW 642.4 pg/L- 'OE'; 2014 water column DW 39.79 pg/L- 'FS'.

9-WLK004.34 (Route 622 Bridge - Giles Co.) Water column samples find two excursions of the WQS criterion of 640 pg/L. 2010 WW at 1,706 pg/L and 2011 WW at 648.8 pg/L. And a third sample 2014 DW at 60.12 pg/L 'FS'.

9-NEW050.70 (New River near Pembroke) 2012 three species analyzed Carp exceeds WQS criterion of 20 ppb (2 fish composite [67.5 - 71.6 cm] at 419.87 ppb and Channel Catfish (1 fish [58.1 cm]) at 23.26 ppb. Remaining species analyzed Flathead Catfish (1 fish [51.4 cm] at 9.60 ppb.

9-SNC000.20- 2004 fish tissue finds with application of the new WQS TV for PCB (20 ppb) the addition of 3 species exceeding the new TV criterion. Rock Bass (10 fish composite [size 16-20 cm] at 25.21, Smallmouth Bass (3 fish composite [size 28.6 - 30.5 cm] at 22.13 and White sucker (1 fish [38.4 cm] at -0.08 ppb. Stony Creek is therefore a 2010 addition based on the new WQS PCB tissue value of 20 ppb.

9-NEW038.71 (New River below Celeanse) 2012 two species analyzed - Each of the following exceed the WQS criterion of 20 ppb. Carp (2 fish composite [68.1 - 69.0 cm] at 355.63 ppb and Flathead Catfish (1 fish [56.0 cm] at 25.39 ppb. 2010 water column PCB DW- 129 pg/L- 'FS; Wet 784 pg/L- 'OE' and 2011 water column PCB Wet- 222 pg/L- 'FS'

9-WFC003.69 (Route 724 Bridge at Gage) 2014 water column DW 114.7 pg/L- 'FS'; WW 1,527.45 pg/L- 'OE'.

9-WFC000.20 (Route 61 Bridge) 2011 water column WW 1,220.1 pg/L- 'OE'; 2013 water column WW 201.31 pg/L- 'FS'. 2014 water column WW 163.39 pg/L- 'FS'; DW 117.93 pg/L- 'FS'.

9-NEW030.15 (Route 460 Bridge at Glen Lyn) 2012 one species analyzed - Each of the following exceed the WQS criterion of 20 ppb. Carp 1 (1 fish [85.0 cm] at 234.01 ppb; Carp 2 (2 fish composite [72.5 - 74.8 cm]) at 448.15 ppb.

9-NEW031.00 (Above Glen Lyn) 2010 water column PCB DW- 66 pg/L 'FS'; WW- 841 pg/L 'OE'.

9-NEW028.95 (New River below Glen Lyn) 2010 water column PCB DW 177.5 pg/L- 'FS'; WW- 709.9 pg/L 'OE'. 2011 water

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column PCB DW- 110.4 pg/L 'FS'; WW- 399.6 pg/l 'FS'. 2013 water column WW 284.08 pg/L- 'FS'; NA 116.76 pg/L- 'FS'. 2014 water column WW 529.48 pg/L- 'FS'; DW 121.59 pg/L- 'FS'.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N08R_NEW01A02 / New River / Mainstem, north of Barren Springs, from Reed Creek confluence downstream to Big Reed Island Creek confluence, WQS Section 2 (NE43).	4A	PCBs in Fish Tissue	2006	L	5.71
VAS-N11R_RDC01B00 / Reed Creek / Lower mainstem from Muskrat Branch confluence downstream to Rt. 52 bridge south of Max Meadows, WQS Section 2 (NE29).	4A	PCBs in Fish Tissue	2016	L	5.85
VAS-N11R_RDC01B06 / Reed Creek / Lower mainstem from Rt. 52 bridge downstream to Miller Creek confluence south of Max Meadows, WQS Section 2 (NE31).	4A	PCBs in Fish Tissue	2006	L	0.60
VAS-N11R_RDC02B02 / Reed Creek / Reed Creek from Miller Creek confluence at Max Meadows downstream to the Glade Creek confluence, near Boiling Spring, WQS Section 2g (NE31).	4A	PCBs in Fish Tissue	2006	L	6.08
VAS-N11R_RDC03B04 / Reed Creek / From New River confluence near Lone Ash, upstream to the Glade Creek confluence near Boiling Spring, WQS Section 2 (NE31).	4A	PCBs in Fish Tissue	2006	L	9.87
VAW-N16L_NEW01A02 / Claytor Lake (New River) / Claytor Lake from its impounding structure upstream to the Claytor State Park Cabins.	4A	PCBs in Fish Tissue	2006	L	######
VAW-N16L_NEW01B14 / Claytor Lake (New River) / Claytor Lake from the Claytor State Park Cabins upstream to the former Burlington Industries water intake.	4A	PCBs in Fish Tissue	2006	L	602.03
VAW-N16L_NEW02A02 / Claytor Lake (New River) / Claytor Lake from the Claytor State Park Cabins upstream to the confluence of Peak Creek	4A	PCBs in Fish Tissue	2006	L	278.51
VAW-N16L_NEW03A02 / Claytor Lake (New River) / Claytor Lake from the confluence of Peak Creek upstream to the end of the WQS public water supply (PWS) designation. The segment ends five miles upstream of the former Burlington Industries intake.	4A	PCBs in Fish Tissue	2006	L	671.89
VAW-N16L_NEW04A02 / Claytor Lake (New River) / Claytor Lake from the end of the Burlington WQS public water supply (PWS) designation upstream to the Pulaski County PSA intake.	4A	PCBs in Fish Tissue	2006	L	447.80
VAW-N16L_NEW05A02 / Claytor Lake (New River) / Claytor Lake from the Pulaski County PSA intake upstream to the end of the WQS public water supply (PWS) designation. Five miles upstream from the Pulaski County PSA intake.	4A	PCBs in Fish Tissue	2006	L	660.27
VAW-N16L_NEW06A02 / Claytor Lake (New River) / Claytor Lake from the upstream end of the Pulaski County PSA WQS public water supply (PWS) designation upstream to the backwaters of Claytor Lake at Allisonia.	4A	PCBs in Fish Tissue	2006	L	152.13
VAW-N16R_NEW01A00 / New River / This section of the New River extends from the mouth of Big Reed Island Creek downstream to the backwaters of Claytor Lake Class IV sec. 2c (NE43).	5A	PCBs in Fish Tissue	2006	L	0.61
VAW-N17L_PKC01A10 / Claytor Lake (Peak Creek) / Peak Creek from its confluence with the New River upstream to the end of the WQS public water supply (PWS) designation.	4A	PCBs in Fish Tissue	2002	L	216.86
VAW-N17L_PKC02A10 / Claytor Lake (Peak Creek) / Peak Creek	4A	PCBs in Fish Tissue	2002	L	78.16

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from the end of the WQS public water supply (PWS) designation upstream to its backwaters.					
VAW-N17R_PKC01A00 / Peak Creek / This portion of Peak Creek begins just downstream of the Rt. 99/Norfolk Southern crossing extending downstream to the inundation of Peak Creek in Claytor Lake (NE46).	5A	PCBs in Fish Tissue	2002	L	1.83
VAW-N17R_PKC02A00 / Peak Creek / The segment begins downstream of the Washington Ave. Bridge (~0.20 miles) and extends on downstream to just below the Rt. 99 Bridge/Norfolk Southern Railway crossing of Peak Creek (NE46).	5A	PCBs in Fish Tissue	2002	L	1.66
VAW-N17R_PKC03A00 / Peak Creek / This portion of Peak Creek extends from the mouth of Tract Fork to downstream of the Washington Ave. Bridge (~0.20 miles) (NE46).	5A	PCBs in Fish Tissue	2006	L	0.51
VAW-N18R_NEW01A00 / New River / New River mainstem from the Watershed boundary, Crab Creek mouth, upstream to approximately one mile downstream of the Rt. 11 Bridge; end of the WQS public water supply (PWS) section (NE57).	5A	PCBs in Fish Tissue	2006	L	3.33
VAW-N18R_NEW02A00 / New River / New River mainstem from approximately one mile downstream of the Rt. 11 Bridge upstream to the Radford City intake (NE57).	5A	PCBs in Fish Tissue	2006	L	3.72
VAW-N18R_NEW03A00 / New River / New River mainstem from the City of Radford water intake upstream to the confluence of Little River (NE57).	5A	PCBs in Fish Tissue	2006	L	2.14
VAW-N18R_NEW04A00 / New River / New River mainstem waters from the mouth of Little River upstream to Claytor Dam (NE57).	5A	PCBs in Fish Tissue	2006	L	0.60
VAW-N22R_NEW01A00 / New River / The New River mainstem from the confluence of Back Creek downstream to the Watershed Boundary at the Montgomery / Giles County Line (NE62).	5A	PCBs in Fish Tissue	2002	L	3.44
VAW-N22R_NEW02A00 / New River / New River mainstem from the Radford Army Arsenal Plant downstream intake near Whitethorne downstream to the confluence of Back Creek (NE62).	5A	PCBs in Fish Tissue	2002	L	2.86
VAW-N22R_NEW02B14 / New River / New River mainstem from the mouth of Toms Creek downstream to the RAAP downstream intake (NE62).	5A	PCBs in Fish Tissue	2002	L	0.51
VAW-N22R_NEW03A00 / New River / New River mainstem from the confluence of Stroubles Creek downstream to the mouth of Toms Creek (NE59).	5A	PCBs in Fish Tissue	2002	L	4.09
VAW-N22R_NEW04A00 / New River / New River mainstem from the Radford Army Arsenal Plant upstream intake/Pepper's Ferry Region POTW outfall downstream to the confluence of Stroubles Creek (NE59).	5A	PCBs in Fish Tissue	2002	L	2.32
VAW-N22R_NEW05A00 / New River / New River mainstem from the Blacksburg /Christiansburg /VPI Authority intake at Rt. 114 downstream to the Radford Army Arsenal Plant upstream intake / Pepper's Ferry Regional POTW outfall (NE59).	5A	PCBs in Fish Tissue	2002	L	1.76
VAW-N22R_NEW06A00 / New River / New River mainstem from the Watershed Boundary at the Crab Creek confluence downstream to the Blacksburg /Christiansburg /VPI Authority intake (NE59).	5A	PCBs in Fish Tissue	2006	L	1.72
VAW-N23R_NEW01A00 / New River / New River mainstem from the Giles/Montgomery County Line downstream to the confluence of Sinking Creek (NE63).	5A	PCBs in Fish Tissue	2002	L	5.47

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VAW-N24R_NEW01A00 / New River / New River mainstem from the confluence of Stony Creek upstream to the mouth of Walker Creek on the New River (NE74).	5A	PCBs in Fish Tissue	2002	L	3.87
VAW-N24R_NEW02A00 / New River / New River mainstem waters from the mouth of Walker Creek upstream to the confluence of Little Stony Creek with the New River (NE74).	5A	PCBs in Fish Tissue	2002	L	2.00
VAW-N24R_NEW03A00 / New River / New River mainstem waters from the confluence of Little Stony Creek upstream to mouth of Sinking Creek on the New River. (NE74)	5A	PCBs in Fish Tissue	2002	L	3.87
VAW-N28R_SNC01A00 / Stony Creek / Stony Creek mainstem waters from its mouth on the New River upstream to Chemical Lime Company's outfall on Stony Creek (NE75).	5A	PCBs in Fish Tissue	2010	L	1.36
VAW-N28R_SNC02A00 / Stony Creek / Stony Creek mainstem waters from the Chemical Lime Company outfall on Stony Creek upstream to the Kimballton Branch confluence on Stony Creek (NE75).	5A	PCBs in Fish Tissue	2010	L	0.63
VAW-N28R_SNC03A00 / Stony Creek / Stony Creek mainstem waters from the confluence of Kimballton Branch upstream to the mouth of Laurel Branch (NE75).	5A	PCBs in Fish Tissue	2010	L	1.69
VAW-N28R_SNC04A00 / Stony Creek / Stony Creek mainstem from the confluence of Laurel Branch upstream to the mouth of Pine Swamp Branch (NE75).	5A	PCBs in Fish Tissue	2010	L	4.69
VAW-N29R_NEW01A02 / New River / New River mainstem from the backwaters of Bluestone Reservoir, Route 460, to the confluence of Rich Creek.	5A	PCBs in Fish Tissue	2002	L	3.20
VAW-N29R_NEW02A02 / New River / New River mainstem from the mouth of Rich Creek upstream to the confluence of Wolf Creek.	5A	PCBs in Fish Tissue	2002	L	3.55
VAW-N29R_NEW03A02 / New River / New River mainstem from the confluence of Wolf Creek upstream to the Celanese Acetate Plant outfalls.	5A	PCBs in Fish Tissue	2002	L	2.79
VAW-N29R_NEW04A02 / New River / New River mainstem from the Celeanse Acetate Plant outfalls upstream to the watershed boundary at the confluence of Stony Creek.	5A	PCBs in Fish Tissue	2002	L	5.78
VAW-N35R_NEW01A00 / New River / New River mainstem from the Rt. 460 Bridge at Glen Lyn downstream to the Virginia/West Virginia State Line.	5A	PCBs in Fish Tissue	2002	L	6.92

New River, Reed Creek, Claytor Lake, Peak Creek, Stony Creek, Walker Creek, And Unknown Tributary XAG.	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
PCBs in Fish Tissue - Total Impaired Size by Water Type:		**4,304.56**	**105.03**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N17R_PKC01A00 / Peak Creek / This portion of Peak Creek begins just downstream of the Rt. 99/Norfolk Southern crossing extending downstream to the inundation of Peak Creek in Claytor Lake (NE46).	5A	Polychlorinated Biphenyls (PCBs)	2016	L	1.83
	5A	Polychlorinated Biphenyls (PCBs)	2016	L	1.83
VAW-N17R_PKC02A00 / Peak Creek / The segment begins downstream of the Washington Ave. Bridge (~0.20 miles) and	5A	Polychlorinated Biphenyls (PCBs)	2016	L	1.66

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extends on downstream to just below the Rt. 99 Bridge/Norfolk Southern Railway crossing of Peak Creek (NE46).					
	5A	Polychlorinated Biphenyls (PCBs)	2016	L	1.66
VAW-N17R_XAG01A02 / Peak Creek, UT (XAG) / An unnamed tributary to Peak Creek not within WQS designated public water supply (PWS) sections. The unnamed tributary mouth is located @37°02'47" / 80°46'03" (NE46).	5A	Polychlorinated Biphenyls (PCBs)	2016	L	3.20
	5A	Polychlorinated Biphenyls (PCBs)	2016	L	3.20
VAW-N25R_WLK01A00 / Walker Creek / Walker Creek mainstem waters from its mouth on the New River upstream to the Cecil Branch confluence at the Rt. 100 crossing (NE73).	5A	Polychlorinated Biphenyls (PCBs)	2014	L	8.39

New River, Reed Creek, Claytor Lake, Peak Creek, Stony Creek, Walker Creek, And Unknown Tributary XAG.	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
Polychlorinated Biphenyls (PCBs) - Total Impaired Size by Water Type:			**21.77**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N30R-01-BAC** **Wolf Creek and Tributaries**

Cause Location: This segment extends from the Burkes Garden Creek confluence downstream between the confluence with Clear Fork and Wilderness Creek and Little Creek, a Wolf Creek tributary upstream to the Tazewell County Sportsmen Club impoundment.

City / County: Bland Co. Tazewell Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli (E. coli) / 4A Fecal Coliform / 4A

The AWQM station located at 9-WFC039.16 had a 91% exceedance of the E.coli water quality standard. Station 9-WFC050.16 had a 78% exceedance, 9-WFC032.47 had 41%, and station 9-WFC024.57 had a 17% exceedance. Station 9-LTL001.22 had a 50% exceedance of the E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N30R_LTL02A10 / Little Creek / A Wolf Creek tributary upstream to Tazewell County Sportsmen Club impoundment in WQS Section 1 (NE78).	4A	Escherichia coli (E. coli)	2014	L	1.89
VAS-N30R_WFC01A00 / Wolf Creek / Mainstem from unnamed tributary downstream of Carter Branch at Grapefield downstream to the Hunting Camp Creek confluence north of Bastian, WQS Section 1 (NE78).	4A	Escherichia coli (E. coli)	2006	L	9.11
VAS-N30R_WFC01A04 / Wolf Creek / From Burkes Garden Creek confluence downstream to unnamed tributary downstream of Carter Branch at Grapefield, WQS Section 1, DGIF *** (NE78).	4A	Escherichia coli (E. coli)	2006	L	7.97
VAS-N30R_WFC01A06 / Wolf Creek, headwaters / Upper segment of Wolf Creek inside Burkes Garden from Snyder Branch confluence downstream to Little Creek confluence (37.1484/-81.2483), WQS Section 1 (NE76/78)	4A	Escherichia coli (E. coli)	2006	L	3.80
VAS-N30R_WFC01B06 / Wolf Creek / Mainstem from the Hunting Camp Creek confluence downstream to Wilderness Creek confluence at South Gap, WQS Section 1 (NE78).	4A	Escherichia coli (E. coli)	2006	L	6.39
VAS-N32R_WFC01A10 / Wolf Creek / Wolf Creek between confluence with Clear Fork at Rocky Gap and Wilderness Creek at South Gap, WQS Section 1, u, parallel to I-77 at Rocky Gap (NE78).	4A	Escherichia coli (E. coli)	2010	L	1.89

Wolf Creek and Tributaries **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			**31.05**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N30R_WFC01A00 / Wolf Creek / Mainstem from unnamed tributary downstream of Carter Branch at Grapefield downstream to the Hunting Camp Creek confluence north of Bastian, WQS Section 1 (NE78).	4A	Fecal Coliform	2002	L	9.11

Wolf Creek and Tributaries **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**9.11**

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Sources:

Grazing in Riparian or Shoreline Zones	Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N30R-01-BEN** **Little Creek**

Cause Location: This segment includes the mainstem from the confluence with Wolf Creek upstream to the Tazewell County Sportsmen's' Club impoundment.

City / County: Bland Co. Tazewell Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic Macroinvertebrates Bioassessments / 5A

Benthic station 9-LTL001.22 was impaired based on VSCI scores of 58 in 2011 and 52 and 64 in 2012.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N30R_LTL02A10 / Little Creek / A Wolf Creek tributary upstream to Tazewell County Sportsmen Club impoundment in WQS Section 1 (NE78).	5A	Benthic Macroinvertebrates Bioassessments	2010	H	1.89

Little Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			**1.89**

Sources:

Grazing in Riparian or Shoreline Zones	Loss of Riparian Habitat	Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N31R-01-BAC** **Hunting Camp Creek**

Cause Location: This segment extends from the confluence with Wolf Creek, upstream through the community of Bastian to an impoundment, river mile 8.50.

City / County: Bland Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli (E. coli) / 4A

The AWQM station located at 9-HCC001.40 had a 18% exceedance and station 9-HCC005.57 had a 58% exceedance of the bacteria water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N31R_HCC01A00 / Hunting Camp Creek / Segment is from the confluence with Wolf Creek, upstream through the community of Bastian to an impoundment, river mile 8.50, WQS Section 1, DGIF *** (NE77).	4A	Escherichia coli (E. coli)	2006	L	8.93

Hunting Camp Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			**8.93**

Sources:

- Crop Production (Crop Land or Dry Land)
- Livestock (Grazing or Feeding Operations)
- Loss of Riparian Habitat

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N32R-01-BAC** **Wolf Creek**

Cause Location: Wolf Creek mainstem waters from the mouth of Clear Fork Creek downstream to the confluence of Wolf Creek with the New River.

City / County: Bland Co. Giles Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli (E. coli) / 4A

The originally listed 2004 portion of the overall extent described above began near the intersection of Routes 61 and 724 at the confluence of an unnamed tributary extending downstream to the mouth of Wolf Creek on the New River. A total of 5.60 miles. A bacteria TMDL was completed in 2015: E.coli TMDL Development for Wolf Creek and Tributaries in Giles, Bland, and Tazewell Counties, VA [Approved: EPA 7/27/16, SWCB 6/27/16; TMDL ID: 66175].

The 2006 Integrated Report (IR) extends the 2004 303(d) Listed fecal coliform (FC) bacteria impairment 16.71 miles upstream. The total bacteria impairment is 22.31 miles. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

9-WFC017.31 (Bridge #6065 on Rt. 644 off Rt. 61) Six out of 36 E.Coli samples exceed the 235 cfu/100 ml instantaneous criterion within the 2016 data window. Exceedances range from 250 to greater than 2000 cfu/100 ml. Five exceeding values are found from 24 escherichia coli (E.coli) observations in 2014. The range of exceedance is from 250 to greater than 2000 cfu/100 ml. Two of 15 E.coli samples exceed the 235 cfu/100 ml criterion at 300 and 450 cfu/100 ml within the 2012 data window. The 2010 and 2008 assessments find two of 12 E.coli samples exceed the 235 cfu/100 ml criterion at 420 and 1000 cfu/100 ml. Two of nine E.coli samples exceed the criterion with the same exceedances in 2006.

9-WFC011.05- (Rt. 676 Bridge at Boxely) The 2016 data window finds two of 36 E.Coli samples exceed the 235 cfu/100 ml instantaneous criterion (400 cfu/100ml and >2000 cfu/100 ml). One exceeding value of greater than 2000 cfu/100 ml exceeds the 235 cfu/100 ml instantaneous criterion from 12 observations within the 2014 data window. There were no additional data within the 2012 data window. Both the 2008 and 2010 assessments find E.coli bacteria exceed the instantaneous criterion in two of 10 samples. Exceeding values are both at 700 cfu/100 ml.

9-WFC005.61 (Rt. 673 Bridge at Penvir) Four of 35 E.Coli samples exceed the instantaneous criterion of 235 cfu/100 ml in the 2016 data window. Excursions range from 250 to 625 cfu/100 ml. The 2014 data window found two of 12 samples in exceedance of the 235 cfu/100 ml instantaneous criterion. Excessive values are 300 and 625 cfu/100 ml. There were no additional data within the 2012 data window. E.coli exceedances are found in five of 12 samples in 2008 and 2010. Values in excess of the 235 cfu/100 ml criterion range from 250 to greater than 2000. E.coli exceedances are found in three of nine samples and the same range of exceedance as in 2008.

9-WFC000.20 (Rt. 61 Bridge) E.coli samples exceed the 235 cfu/100 ml instantaneous criterion in five of 48 samples within the 2018 data window. The 2016 data window finds three of 48 samples exceed the 235 cfu/100 ml instantaneous criterion. Excursions range from 275 to 425 cfu/100 ml. Two of 24 escherichia coli (E.coli) samples exceed the 235 cfu/100 ml instantaneous criterion in 2014. The 2012 assessment finds one of 14 E.coli samples exceeding the instantaneous criterion of 235 cfu/100 ml at 1200. E.coli exceeds the instantaneous criterion in three of 12 samples in 2008 and 2010. Each excursion of the criterion is 520, 900 and 1200 cfu/100 ml. E.coli excursions in 2006 are two of nine samples with each excursion of the criterion at 520 and 900 cfu/100 ml. The 2004 Integrated Report (IR) finds FC exceedances of the 400 cfu/100 ml instantaneous criterion in two of 18 samples resulting in a 2004 impairment listing that remains. Exceeding values are 700 and 1500 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N32R_WFC01A00 / Wolf Creek / Wolf Creek mainstem from its mouth on the New River upstream to the former Narrows STP outfall on Wolf Creek. Mill Creek confluence (NE81)	4A	Escherichia coli (E. coli)	2006	L	0.39
VAW-N32R_WFC02A00 / Wolf Creek / Wolf Creek mainstem from the mouth of Mill Creek former Narrows STP outfall upstream to an unnamed bridge crossing Wolf Creek (NE81).	4A	Escherichia coli (E. coli)	2006	L	5.22

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

VAW-N32R_WFC03A00 / Wolf Creek / Wolf Creek mainstem waters from an unnamed bridge upstream to Bland/Giles County Line (NE81).	4A	Escherichia coli (E. coli)	2006	L	8.80
VAW-N32R_WFC04A00 / Wolf Creek / Wolf Creek mainstem waters from the Bland/Giles County Line upstream to the confluence of Clear Fork Creek (NE81).	4A	Escherichia coli (E. coli)	2006	L	7.91

Wolf Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			**22.32**

Sources:

Livestock (Grazing or Feeding Operations)	Municipal (Urbanized High Density Area)	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Unspecified Domestic Waste
Wastes from Pets	Wet Weather Discharges (Non-Point Source)	Wildlife Other than Waterfowl	

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N32R-01-TEMP** **Wolf Creek**

Cause Location: Wolf Creek mainstem waters from the Bland/Giles County Line upstream to the confluence of Clear Fork Creek.

City / County: Bland Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature / 5C

The Aquatic Life Use impairment for temperature returns with the 2014 Integrated Report (IR).

9-WFC017.31 (Bridge #6065 on Rt. 644 off Rt. 61) No additional data collected since the 2016 data window. The 2016 data window finds four of 36 exceedances of the 21°C Class V - Stockable Trout Waters criterion. One exceedance occurs at 22.9°C (7/23/13) in addition to the exceedances within the 2014 data window. Three of 24 temperature measurements exceed the WQS Class V - Stockable Trout water criterion of 21°C in 2014. Values in excess of the criterion are 24.7°C (7/12/2011), 23.0°C (6/25/2012) and 21.2°C (8/21/2012). These waters were delisted with the 2012 IR as temperature excursions of the WQS Class V criterion of 21°C are zero of 15 measurements or an exceedance rate of 0.0% at station 9-WFC017.31. Originally listed in 2008 these waters should have been listed in 2006 with two of nine exceeding values and a TMDL Schedule of 2018. Two of 12 temperature measurements exceed the Class V stockable trout water 21°C criterion within the 2008 and 2010 data windows. Exceeding values are 21.1°C on 8/4/2003 and 21.9°C on 8/30/2004.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N32R_WFC04A00 / Wolf Creek / Wolf Creek mainstem waters from the Bland/Giles County Line upstream to the confluence of Clear Fork Creek (NE81).	5C	Temperature	2014	M	7.91

Wolf Creek **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature - Total Impaired Size by Water Type:			**7.91**

Sources:

Natural Sources	Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N33R-01-BAC** **Dry Fork**

Cause Location: This segment includes Dry Fork south of East River Mountain at the West Virginia state line, downstream to North Gap (excluding the headwaters).

City / County: Bland Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli (E. coli) / 5A

The AWQM station located at 9-DYF000.07 had 17% exceedance.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N33R_DYF01A12 / Dry Fork / Dry Fork south of East River Mountain, the WV state line, downstream to North Gap, excluding headwaters, WQS Section 1 (NE80).	5A	Escherichia coli (E. coli)	2012	L	5.24

Dry Fork **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			**5.24**

Sources:

Grazing in Riparian or Shoreline Zones	Livestock (Grazing or Feeding Operations)

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N33R-01-TEMP** **Dry Fork**

Cause Location: This segment includes Dry Fork downstream to north Gap, excluding the headwaters.

City / County: Bland Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Temperature / 5A

The AWQM station located at 9-DYF000.07 has a 17% exceedance of the temperature.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N33R_DYF01A12 / Dry Fork / Dry Fork south of East River Mountain, the WV state line, downstream to North Gap, excluding headwaters, WQS Section 1 (NE80).	5A	Temperature	2012	M	5.24

Dry Fork **Aquatic Life**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Temperature - Total Impaired Size by Water Type:			**5.24**

Sources:

Grazing in Riparian or Shoreline Zones	Loss of Riparian Habitat

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N34R-01-BAC** **Rich Creek**

Cause Location: The impaired waters begin just downstream of Peterstown, West Virginia at the mouth of Brush Creek on Rich Creek and extends to the Rich Creek confluence on the New River (Peterstown, WVA Quad).

City / County: Giles Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli (E. coli) / 5A

The 2002 2.85 mile fecal coliform (FC) bacteria impairment remains. Escherichia coli (E.coli) replaces fecal coliform bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

9-RHC000.08 (Rt. 806 Bridge) No additional data collected since the 2016 data window. 2014 and 2016 data windows escherichia coli exceedances occur in 14 of 35 observations. Exceedances range from 275 to 1575 cfu/100 ml. E.coli exceed the 235 cfu/100 ml instantaneous criterion in 14 of 32 samples within the 2012 data window. Exceedances range from 350 to 1010 cfu/100 ml. The 2010 assessment finds E.coli exceed the instantaneous criterion in 10 of 21 samples. Exceedances range from 400 to 1010 cfu/100 ml. E.coli exceed the instantaneous criterion in three of nine samples in 2008 ranging from 400 to 900 cfu/100 ml. Data within the 2006 data window exceed the former FC 400 cfu/100 ml instantaneous criterion in five of nine samples with an exceedance range of 1000 to 2800 cfu/100 ml. The 2004 IR reports FC exceeds the former instantaneous criterion in 10 of 18 samples. Exceeding values range from 500 to 2800 cfu/100 ml.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N34R_RHC01A00 / Rich Creek / Rich Creek mainstem from its mouth on the New River upstream to the Rt. 219 crossing at the Virginia/West Virginia State Line.	5A	Escherichia coli (E. coli)	2008	L	2.85

Rich Creek **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			**2.85**

Sources:

- Municipal (Urbanized High Density Area)
- Unspecified Domestic Waste
- Wet Weather Discharges (Non-Point Source)
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N35R-01-BAC** **Adair Run**

Cause Location: The Adair Run impairment begins at the Virginia / West Virginia State Line and extends downstream to the Adair Run confluence with the New River.

City / County: Giles Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli (E. coli) / 5A

The 2004 303(d) Listed 0.37 mile bacteria impaired waters find the Recreational Use is not supported. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

9-ADR000.13 (Rt. 648 Bridge) There are no additional data beyond the 2014 data window. The 2014 assessment finds E.coli exceed the 235 cfu/100 ml WQS instantaneous criterion in five of 32 samples. Values in excess of the criterion range from 325 to 1650 cfu/100 ml. There are no additional data within the 2012 data window. The 2010 assessment finds escherichia coli exceed the 235 cfu/100 ml WQS instantaneous criterion in three of 20 samples. Values in excess of the criterion are 450, 1050 and 1200 cfu/100 ml. The 2004 IR reports fecal coliform exceeds the former 400 cfu/100 ml instantaneous criterion in six of 26 observations. Exceeding values range from 500 to 4200 cfu/100 ml. FC exceeds the former instantaneous criterion in six of 20 observations within the 2006 data window. Exceeding values range from 500 to 4200 cfu/100 ml. FC data within the 2008 data window find four of 14 samples exceeding the former instantaneous criterion.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAW-N35R_ADR01A00 / Adair Run / Adair Run mainstem from its mouth on the New River upstream to the Virginia/West Virginia State Line.	5A	Escherichia coli (E. coli)	2010	L	0.37

Adair Run **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			**0.37**

Sources:

- Unspecified Domestic Waste
- Wildlife Other than Waterfowl

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N36R-01-BAC** **Bluestone River and Big Branch**

Cause Location: This segment extends from Route 460 bridge downstream to the West Virginia political boundary and includes Big Branch from the headwaters downstream to the confluence with the Bluestone River. It also includes Mud Fork, a Bluestone River tributary at Falls Mills (does not include privately owned reservoir).

City / County: Tazewell Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli (E. coli) / 4A Fecal Coliform / 4A

Station 9-BST066.80 had a 56% exceedance of the E.coli water quality standard. The AWQM station located at 9-BST062.47 had a 77% exceedance of the E.coli water quality standard, station 9-BST073.32 had a 37% exceedance. Stations 9-BIG000.12 had a 88% exceedance and 9-MFK000.11 had a 36% of the E. coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N36R_BST04A02 / Bluestone River / From Wright's Valley Creek confluence downstream to N37 at the Big Branch confluence below Falls Mills, section 1g, u (NE86).	4A	Escherichia coli (E. coli)	2004	L	6.23
VAS-N36R_BST04B02 / Bluestone River / From PWS intake for Town of Bluefield, downstream to Wright's Valley Creek confluence, section 1g, u (NE86).	4A	Escherichia coli (E. coli)	2006	L	1.72
VAS-N36R_BST05A02 / Bluestone River / From Town of Bluefield PWS intake, upstream to Rt. 460 bridge near Shannandale, WQS Section 1h, u (NE86).	4A	Escherichia coli (E. coli)	2006	L	5.05
VAS-N36R_MFK01A06 / Mud Fork / Bluestone tributary at Falls Mills, north of Stony Ridge upstream to SR 608 bridge, WQS Section 1g. Does not include privately owned reservoir (NE87).	4A	Escherichia coli (E. coli)	2018	L	2.98
VAS-N37R_BIG01A10 / Big Branch / Bluestone tributary south of Abbs Valley Ridge, from headwaters in WQS Section 1g, parallel SR 698 (NE 88).	4A	Escherichia coli (E. coli)	2010	L	3.33
VAS-N37R_BST01A96 / Bluestone River / Mainstem from Big Branch confluence downstream to WV state line near Yards in WQS Section 1g, u (NE88).	4A	Escherichia coli (E. coli)	2006	L	0.62

Bluestone River and Big Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			**19.93**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N36R_BST04B02 / Bluestone River / From PWS intake for Town of Bluefield, downstream to Wright's Valley Creek confluence, section 1g, u (NE86).	4A	Fecal Coliform	2002	L	1.72
VAS-N37R_BST01A96 / Bluestone River / Mainstem from Big Branch confluence downstream to WV state line near Yards in WQS Section 1g, u (NE88).	4A	Fecal Coliform	2002	L	0.62

Bluestone River and Big Branch **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fecal Coliform - Total Impaired Size by Water Type:			**2.34**

New River Basin

Sources:

- Rural (Residential Areas)
- Sewage Discharges in Unsewered Areas
- Silviculture Activities
- Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N36R-01-BEN** **Bluestone River**

Cause Location: This segment extends from the Wright's Valley Creek confluence downstream to the West Virginia political boundary.

City / County: Tazewell Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic Macroinvertebrates Bioassessments / 4A Sedimentation/Siltation /

Biological station 9-BST069.21 was impaired based on VSCI scores of 49 and 53 in 2016. Station 9-BST069.07 was impaired based on VSCI scores of 58.2 and 56.3 in 2017.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N36R_BST04A02 / Bluestone River / From Wright's Valley Creek confluence downstream to N37 at the Big Branch confluence below Falls Mills, section 1g, u (NE86).	4A	Benthic Macroinvertebrates Bioassessments	2002	L	6.23
VAS-N37R_BST01A96 / Bluestone River / Mainstem from Big Branch confluence downstream to WV state line near Yards in WQS Section 1g, u (NE88).	4A	Benthic Macroinvertebrates Bioassessments	2002	L	0.62

Bluestone River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			**6.85**

Sources:

Crop Production (Crop Land or Dry Land)

Silviculture Activities

Unrestricted Cattle Access

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N36R-01-CDANE** **Bluestone River**

Cause Location: This segment includes the mainstem from the confluence with Big Branch downstream to West Virginia political boundary; may be found on the Bramwell quad sheet.

City / County: Tazewell Co.

Use(s): Fish Consumption

Cause(s) / VA Category: Chlordane / 5A

The fish tissue and sediment sampling stations at 9-BST069.46 and 9-BST066.94 had total chlordane levels detected in the sediment in 2002 above DEQ's screening value.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N37R_BST01A96 / Bluestone River / Mainstem from Big Branch confluence downstream to WV state line near Yards in WQS Section 1g, u (NE88).	5A	Chlordane	2004	L	0.62

Bluestone River **Fish Consumption**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Chlordane - Total Impaired Size by Water Type:			**0.62**

Sources:

Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N36R-01-PCB** **Bluestone River**

Cause Location: This segment begins at the Route 460 bridge downstream to the West Virginia political boundary. It also includes a segment of Beaverpond Creek that flows from West Virginia into Virginia, sometimes under city buildings and streets and into the Bluestone River and Brush Fork from the west Virginia state line to the confluence with the Bluestone River in Falls Mills.

City / County: Tazewell Co.

Use(s): Fish Consumption

Cause(s) / VA Category: PCBs in Fish Tissue / 5A Polychlorinated Biphenyls (PCBs) / 5A

In April 2004 a Special Study was conducted by DEQ and USGS. An SPMD deployed at station 9-BPB000.02 indicated Total PCBs in the water column at 3700pg/l and 1300pg/l in 2005. SPMDs deployed at stations 9-BST066.18, 9-BST068.98 and 9-BST072.65 indicated PCB values of 1800 pg/l, 800 pg/l and 230 pg/l. Fish tissue and sediment stations 9-BST0666.94 and 9-BST069.46 found PCB in exceedance of DEQ's screening values in white suckers. Station 9-BST069.46 also had sediment samples that exceeded the ER_M for PCBs. SPMD sampling in 2004 indicated PCB was 3500 pg/l at station 9-BFK003.14.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N36R_BST04A02 / Bluestone River / From Wright's Valley Creek confluence downstream to N37 at the Big Branch confluence below Falls Mills, section 1g, u (NE86).	5A	PCBs in Fish Tissue	2002	L	6.23
VAS-N36R_BST04B02 / Bluestone River / From PWS intake for Town of Bluefield, downstream to Wright's Valley Creek confluence, section 1g, u (NE86).	5A	PCBs in Fish Tissue	2002	L	1.72
VAS-N36R_BST05A02 / Bluestone River / From Town of Bluefield PWS intake, upstream to Rt. 460 bridge near Shannandale, WQS Section 1h, u (NE86).	5A	PCBs in Fish Tissue	2002	L	5.05
VAS-N37R_BST01A96 / Bluestone River / Mainstem from Big Branch confluence downstream to WV state line near Yards in WQS Section 1g, u (NE88).	5A	PCBs in Fish Tissue	2002	L	0.62

Bluestone River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
PCBs in Fish Tissue - Total Impaired Size by Water Type:			**13.62**

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N36R_BFK01A06 / Brush Fork / Bluestone tributary from WV state line downstream to Bluestone River at Falls Mills parallel to SR 643, WQS Section 1g (NE86).	5A	Polychlorinated Biphenyls (PCBs)	2010	L	1.48
VAS-N36R_BPB01A06 / Beaverpond Creek / Bluestone tributary from WV state line, sometimes under town buildings and streets in Bluefield, downstream to Bluestone confluence, WQS Section 1g (NE86).	5A	Polychlorinated Biphenyls (PCBs)	2012	L	2.99

Bluestone River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Fish Consumption			
Polychlorinated Biphenyls (PCBs) - Total Impaired Size by Water Type:			**4.47**

New River Basin

Sources:

Illegal Dumps or Other Inappropriate Waste Disposal	Source Unknown

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N37R-01-BAC** **Laurel Fork**

Cause Location: Laurel Fork mainstem from the Curran Branch confluence at Boissevain to the WV state line east of Pocahontas.

City / County: Tazewell Co.

Use(s): Recreation

Cause(s) / VA Category: Escherichia coli (E. coli) / 4A

The AWQM station located at 9-LRR001.39 had a 83% exceedance of the E.coli water quality standard.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N37R_LRR01A94 / Laurel Fork / Laurel Fork mainstem from the Curran Branch confluence at Boissevain, to WV state line east of Pocahontas, WQS Section 1 (NE88)	4A	Escherichia coli (E. coli)	2006	L	4.70

Laurel Fork **Recreation**	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Escherichia coli (E. coli) - Total Impaired Size by Water Type:			**4.70**

Sources:

Sanitary Sewer Overflows (Collection System Failures)

Septage Disposal

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N37R-01-BEN** **Laurel Fork**

Cause Location: Laurel Fork mainstem from the Curran Branch confluence at Boissevain to the WV state line east of Pocahontas.

City / County: Tazewell Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic Macroinvertebrates Bioassessments / 4A Sedimentation/Siltation /

The biological station at 9-LRR001.39 found that the segment was impaired based on the VSCI.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N37R_LRR01A94 / Laurel Fork / Laurel Fork mainstem from the Curran Branch confluence at Boissevain, to WV state line east of Pocahontas, WQS Section 1 (NE88)	4A	Benthic Macroinvertebrates Bioassessments	1996	L	4.70

Laurel Fork	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			**4.70**

Sources:

Impacts from Abandoned Mine Lands (Inactive)

Silviculture Activities

Fact Sheets for Impaired (Category 4 or 5) Waters in 2020

New River Basin

***Cause Group Code:* N37R-02-BEN** **Laurel Fork**

Cause Location: Upstream of the Curran Branch confluence at Boissevain to headwaters on Yokel Ridge (parallel to the West Virginia state line).

City / County: Tazewell Co.

Use(s): Aquatic Life

Cause(s) / VA Category: Benthic Macroinvertebrates Bioassessments / 4A

Probabilistic monitoring station at 9-LRR012.30 was impaired based on VSCI scores of 38.6 and 44.4 in 2014, 54.7 and 56.3 in 2016, and 51.31 and 50.38 in 2018.

Assessment Unit / Water Name / Location Desc.	Cause Category	Cause Name	Cycle First Listed	TMDL Dev. Priority	Water Size
VAS-N37R_LRR02A02 / Laurel Fork / Upstream of the Curran Branch confluence at Boissevain to headwaters on Yokel Ridge (parallel WV state line), WQS Section 1 (NE88).	4A	Benthic Macroinvertebrates Bioassessments	2014	L	8.30

Laurel Fork	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic Macroinvertebrates Bioassessments - Total Impaired Size by Water Type:			**8.30**

Sources:

Source Unknown